Commission of Inquiry to examine DNA Project 13 concerns

Brisbane Magistrates Court Court 40, 363 George Street, Brisbane

On Thursday, 2 November 2023 at 10.30am

Before: The Hon Dr Annabelle Bennett AC SC, Commissioner

Counsel Assisting:

Mr Andrew Fox SC (Senior Counsel Assisting)

Ms Gabriella Rubagotti (Counsel Assisting)

THE COMMISSIONER: Yes.

MR FOX: This morning we're going to resume the conclave evidence between Mr Nurthen, Mr McNevin and also Ms Ientile.

Before we do so, I will indicate some tenders which will find their way to the electronic court book. The first is in relation to the three journalist interview transcripts of yesterday. Only the relevant portions that I took Professor Wilson-Wilde to will be part of tender.

THE COMMISSIONER: (Indistinct) the parts of the transcript to which she was taken during her evidence.

MR FOX: Yes, indeed. I note that her legal representatives were concerned that if there were any other contextual matters amongst the transcript, that they would deal with me about that, and if we need to make a modification to the transcript, we will do that.

THE COMMISSIONER: Okay, thanks.

With respect to statements that are being MR FOX: tendered, firstly, there is a second statement of David Harold Neville. He is an acting superintendent of the Forensic Services Group of the Queensland Police, dated The second is Ms Amanda Reeves has given 1 November. a second statement of 1 November 2023. Then also Mr Nurthen has given a short two-page statement of the same date, and Mr McNevin has done the same. These are in response to criticisms that have been made in a document that had been provided earlier, some comments that Dr Wright had made. Those are two short responsive statements. They will be formally tendered and I ask that they be part of the record.

We may as well at this point get into the resumed conclave evidence. I invite those three people to come forward, please, and resume their seats.

DOCUMENTS TENDERED AS DESCRIBED ABOVE BY COUNSEL ASSISTING

 THE COMMISSIONER: Do you have a copy of the first of the Neville statements available in hard copy? Thank you. Come back and sit there, you don't have to sit in the same seats, but people tend to do that.

 <VANESSA KATE IENTILE, on former oath:</pre>

[10.32am]

<THOMAS EDMUND KERSEY NURTHEN, on former affirmation:</pre>

[10.32am]

<ALLAN RUSSELL McNEVIN, on former affirmation: [10.32am]</pre>

THE COMMISSIONER: I might just start to clarify one matter that I wanted to ask you about. Have you seen the first statement of David Harold Neville?

MR NURTHEN: Yes.

MR McNEVIN: Yes.

THE COMMISSIONER: This probably concerns more Mr Nurthen and Mr McNevin.

Can I ask you to go to the table on page 8 - sorry, paragraph 8. There is no page 8, paragraph 8. You will see there that he has set out some statistics in relation to samples where there was no DNA found or the blood had failed to show a profile. You will see that in 2005/6 it was 6 per cent; 2006/7, it was 7 per cent; 2007/8 it went to 11 per cent; and in 2008/9 to 32 per cent.

Then in paragraph 11 he points out that samples tested in the first half of 2010 revealed that the percentage had dropped to 12 per cent.

What intrigued me was that for 2005/6 it was 6 per cent; 2006/7, it was 7 per cent, even - I'm not focusing now on the 2008/9 but rather the move from 2006/7 to 2007/8, it goes from 7 to 11 per cent. That's a significant increase. Then if you look at the fact that it went - "dropped", in inverted commas I put - to 12 per cent, 12 per cent in 2010 is double the failure rate than 2005 and 2006. So while it dropped from the - what probably was the contamination phase, and let's call it that, it dropped - the 12 per cent, in 2020 [sic], was double 2006. Did that ring bells for anybody?

Mr Nurthen, Mr McNevin, did someone see that and see that there had been a doubling of the failed profiles?

MR NURTHEN: I think not having the context as to how the

data was collected necessarily, and understanding when QPS 1 are saying "no profile", what "no profile" actually means. 2 It's a vague term, in terms of going "no profile", 3 4 because --5 THE COMMISSIONER: It sounds to me like it says they were 6 7 being told that whatever they were getting back from the samples that they had taken, that there was no DNA profile 8 I mean, I can get Superintendent Neville in to 9 explain that, but that's how I read it, because he says 10 here: 11 12 ... was aware that the robotics ... This 13 came to my attention because it coincided 14 15 with a spike in blood samples --16 17 "blood samples". I would have thought if you are going to get a profile, you should be able to get it from blood: 18 19 20 ... blood samples not yielding profiles. 21 22 Right? He said he had: 23 24 ... received complaints from numerous 25 forensic officers that samples presumed to be blood had failed to yield a profile. 26 27 28 And the statistics that he puts in show that there was 29 a marked increase between 2006/7 and then a doubling, in 30 effect, even after the 2008/9 period, back into 2010, when 31 everyone thought things were looking better, to a profile 32 of failed - the percentage that failed to produce a profile 33 was double that in 2005/6, as a percentage. So we're not 34 talking about absolute numbers, because that, of course, 35 wouldn't be helpful. But were you aware of that at the 36 time - anyone? I mean, you wouldn't have been, Ms Ientile, Do you remember this being discussed -37 you weren't there. 38 recognised and discussed? Mr McNevin? 39 40 MR McNEVIN: I personally don't remember that data 41 happening --42 43 THE COMMISSIONER: Well, you might not have seen these 44 exact --45 MR McNEVIN: No, no --46

THE COMMISSIONER: He has obviously requested these statistics. But they must have been reflected, surely, in the laboratory's data?

MR NURTHEN: I don't think we were collecting data the same way, and in terms of - if you are choosing success rates, it's a very difficult thing to actually elaborate on what should be a successful DNA profiling versus what shouldn't be.

 I know at the time when these were collected, we didn't have access in the laboratory to know what had been sampled in terms of images, so to know whether or not, when something is described as being bloodstained, how bloodstained it was, I guess, we didn't have any context. So I don't - I know I've seen something that relates to there being success rates investigated within the laboratory, I don't know how they correlate with this.

 THE COMMISSIONER: So are you saying that in this time period, going through to 2010, there was no methodology of record-keeping or tracking in the laboratory that revealed this marked increase in failed sampling - samples failing to produce a profile? There was just no way it was tracked or recognised or, even assuming it tripled, nobody would have picked it?

MR McNEVIN: I don't believe there were any systematic reviews of success rates that we were carrying out on a regular basis.

 THE COMMISSIONER: So if the failure rate had dropped - had gone from 12 per cent to 30 per cent back up again, it just wouldn't have necessarily been picked up within the laboratory.

MR NURTHEN: I think it would have been picked up but it's where it would have been picked up, because a case manager that was actually case managing the samples, I think if they had seen something that said it was bloodstained and they get to the end when they're interpreting the DNA profile and they were seeing case after case where there wasn't a DNA profile --

THE COMMISSIONER: But if they were seeing a doubling of the numbers in 2010 as against, even more recently, 2006/7.

MR NURTHEN: That's at the QPS end. I'm talking about at 1 2 the forensic biology end. 3 THE COMMISSIONER: But there must have been someone in the 4 laboratory - I mean, if the QPS were getting fewer 5 profiles, then the laboratory was getting more samples 6 7 that - the greater percentage of samples that said "Insufficient DNA", or something going wrong between the 8 extraction and the profiling? 9 10 MR NURTHEN: And if those statistics were being done, it 11 12 may have been being done in those various areas, so within major crime and volume crime, and the team leaders that 13 were involved in those areas, they may have collected those 14 15 statistics. 16 17 THE COMMISSIONER: Were you aware of it at all, that there was a marked increase in what I'll now call "failed 18 19 samples"? 20 21 MR McNEVIN: I don't recall there being any specific data 22 around that. You know, you're also looking at quite 23 possibly quite a large sample mix, that changed through 24 those years, where there was an increase in the amount of 25 volume crime work that was being sampled. So I don't actually - in my opinion, those are such broad-based 26 figures with, you know, "failed to yield a profile" -27 28 like --29 THE COMMISSIONER: But that's the end result, though isn't 30 31 I mean, the end result is --32 MR McNEVIN: 33 Yes. 34 35 THE COMMISSIONER: The whole point of taking a sample 36 is - the point of treating it is that you get a profile. 37 That's the idea, but --38 39 MR McNEVIN: Sorry --40 THE COMMISSIONER: Sorry, go on, Mr McNevin. 41 42 43 MR McNEVIN: Sorry. What I'm trying to say is that without any detail around what sort of samples are 44 collected, what sort of testing was done - when it says 45 "presumed to be blood", what do they mean by that? 46 47 there is a big difference between something that is an

obvious blood sample with a rapidly positive reaction to your presumptive test versus something which at times has been described as, like, "weak positive" and that kind of which could still be submitted under the aegis of being called a blood sample but isn't necessarily blood, but without a --

THE COMMISSIONER: Well, it seems sufficient that there were complaints from forensic officers that samples presumed to be blood had failed to yield a profile. Do you recall that happening?

MR McNEVIN: Not specifically. I seem to remember there was a problem around some - a particular swab type.

THE COMMISSIONER: We'll come to the swab type in a second.

MR McNEVIN: That's my only real recollection around --

THE COMMISSIONER: Let me ask you a question. If this sort of thing had - if this, I'll call it a stark description because I understand you say there are more complexities, but if this was occurring and it was seen to have been occurring at the time, was there any system in place between the different sections of the laboratory that would have rung an alarm bell about this?

MR McNEVIN: I don't believe there was. I mean, if I had been presented with data like this, I would have wanted to drill down and work out what was going on, but I would have had to have been given the data to look at and then I would want to know, right, okay, what's this about? Total numbers of samples - you know --

THE COMMISSIONER: You say you don't recall that ever happening?

 MR NURTHEN: I can recall there being several times in the laboratory where we've looked at success rates, but actual dates I can't remember - in this period, possibly within this period we looked at success rates, but like I said before, I think because one area of the laboratory, being the analytical side, versus the side that the profiles are interpreted, we would be relying on the sides where the profiles are being interpreted to alert us that there was potentially a problem and then presumably at the management

team it would be discussed.

THE COMMISSIONER: Do you recall getting alerts like that from them?

MR NURTHEN: Personally I don't recall any alerts. But it may well be that in some of the management team meetings that that was discussed because I can recall there being success rates looked at at least some time in this period.

 THE COMMISSIONER: Because, just picking up on the evidence that you gave the other day, the difference between 2005/6 and 2010 was by this time you were using a method that was meant to give you higher quality DNA outcomes, you know, with fewer inhibitors and should have given you better results not worse results, shouldn't it?

MR NURTHEN: Again, I think it's the context around what they expect to get a profile from versus what you can actually get a profile from. There's no context in whether or not the Queensland Police would actually have the figures to be able to say, in 2005 and 2006, the people that sampled it, was it the same people that sampled it in later dates, and so they were using the same measuring stick, if you will, to say they expected to get a DNA profile.

THE COMMISSIONER: But they would be the sorts of questions that you might ask after the bell had been rung, you know, after someone says --

MR McNEVIN: Yes, you would need someone to raise the alarm.

THE COMMISSIONER: The sort of things you are dealing with, I understand that, you would want to know all these things - were the samples identical, is it like with like, all the different issues you might want to compare. My question is at stage 1, which is do you recall - and I know you work in different departments and I understand the point of the different departments, but do you recall an alarm bell going off saying "Look, we've fixed the contamination issue but we still have a very large percentage of samples not producing profiles." Do you recall in that time period around 2010, which is the evidence I've got, that such an alarm bell rang?

MR NURTHEN: No. But like I said, I know that there's been success rates done over various times over many years and I know the simplistic part of around expecting that you are going to get a DNA profile versus getting it made it so much more complex, that made it difficult that if you are presented with a statistic like this, to know whether or not what you are seeing is an alarm bell or not.

THE COMMISSIONER: So you don't recall in that time frame having - and you can only speak for yourselves - do either of you recall in that time frame anybody from anywhere in the laboratory, whether it's the interpretation people or something else, saying "Look, I think we've got a systemic problem here, something is still not working well because we're getting an increase in failed DNA profiles".

MR NURTHEN: In terms of low yields and no profiles?

THE COMMISSIONER: In terms of low profiles, coming to you saying "We are seeing a huge increase" - "significant", "huge" is a bad word - a significant increase - I don't care how you look at it. I do care but I don't know what terminology. "We're seeing a systemic or significant increase in the number of samples that are not producing profiles and we don't have an explanation for it", or, "We do have an explanation for it", but we're seeing that increase. Do you recall either of you, in that time frame, and I appreciate it is a while ago, getting that sort of notification or observation from within the laboratory?

MR NURTHEN: I don't recall, and leading up to the Commission I had been through a lot of emails, through my old emails within this whole period, and I couldn't find any emails that were suggesting that people had emailed me directly to say, "Hey, we think we've got a problem, we're still getting low yields", or "I'm concerned about not getting DNA profiles after reimplementation". given all the problems that we had with contamination, people were prepared to actually put their hand up and say, "We think we've got a problem", because we were very sensitive, knowing how difficult it was to gain the confidence of the staff again after contamination. I think if someone had alerted me, then we would have looked into it a bit more. I don't recall anyone actually alerting me to that.

MR McNEVIN: Like I mentioned before, I can remember there

was an issue with those 4N6 swabs, but that's about it, 1 2 I can't really recall any specific thing. 3 We - over the years I think I mentioned it when I gave 4 5 evidence last time, I have done so many different sets of experiments on so many different things in this lab, that 6 7 it is a little bit hard to tease apart one set of testing from another. 8 9 THE COMMISSIONER: But this --10 11 So I don't have --12 MR McNEVIN: 13 THE COMMISSIONER: 14 I understand that, but if this had been 15 appreciated, this is a lab-wide problem. 16 MR McNEVIN: So --17 18 19 THE COMMISSIONER: It's not a single experiment, it's --20 21 MR McNEVIN: So --22 23 THE COMMISSIONER: Something has gone badly wrong, if you have fixed the contamination issue and you are still 24 25 getting double the percentage of bad profiles, or no profiles. 26 27 28 MR McNEVIN: The point I was trying to get to, though, 29 is --30 31 THE COMMISSIONER: Sorry if I interrupted you. 32 33 MR McNEVIN: -- I may have done some data at some point but 34 I don't remember it specifically and I certainly don't 35 remember it being something that someone brought to me in a 36 big way that was like a major issue that we did a big 37 investigation into. I may have done some data analysis, but I don't recall specifically, and certainly those 38 39 figures that I saw in Mr Neville's statement, it was not something that rang a bell at all. 40 I don't remember seeing something like, you know, 33 per cent of samples that were 41 supposedly blood that didn't yield a profile. 42 It doesn't 43 strike me as something that I remember seeing before. 44

THE COMMISSIONER:

something?

45

46 47 Do you want to add

Thank you.

MR NURTHEN: I was just going to say the rise, the jump from 11 to 32 per cent kind of confuses me a little bit, too, because for a vast majority of that period, we were back using Chelex method. So that if it had been automated IQ that was contributing directly to that, we would have seen a decrease, not an increase - just looking at those figures, but again not knowing the complexities of those figures - because if Chelex was giving us, you know, back in 2005, only 6 per cent failure rate, and then from July 2008 we stopped using it and went back to Chelex, I would have thought we would have seen a much more decreased amount.

THE COMMISSIONER: Wasn't that the period in which you were using Chelex but still using the MultiPROBE?

MR NURTHEN: No, from July 2008 we stopped using the MultiPROBE, and we were only using Chelex and then occasionally we were doing a manual DNA IQ as well. So in that period, a whole lot of those results would be presumably Chelex not DNA IQ.

THE COMMISSIONER: Do you have any explanation of how and why it went up to 32 per cent?

MR NURTHEN: Like I said, unless it's the Chelex themselves or whether it's - whether those particular samples themselves were never going to get a DNA profile. That's what I'm saying, it's a very --

THE COMMISSIONER: It is unlikely, though, isn't it, on average that you would get suddenly an increase in samples that don't yield a profile.

MR NURTHEN: Like I said, I would have thought that if Chelex was giving us better results, then I wouldn't have seen such a big jump from 11 to 32 per cent.

THE COMMISSIONER: You have no recollection of that being brought to your attention, either of you, back in 2008/9?

MR McNEVIN: No. I think our heads would have been full of trying to solve the problem with the contamination.

45 MR NURTHEN: Yes.

THE COMMISSIONER: Okay. Thank you. I think I've taken

that - Mr Fox, can I hand over to you now for any further 1 2 questions with respect - you might want to ask some 3 questions? No, I can take it further, I'm sorry. 4 5 You will see that - this is just to help me, here. You raised the question of a swab issue before, and there 6 7 is an annexure to that statement, which is exhibit 1. you had a chance to read that? 8 9 MR NURTHEN: 10 Yes. 11 Is that the second statement? 12 MR McNEVIN: 13 THE COMMISSIONER: Can someone explain to me the swab 14 15 problem? 16 Is this the second statement? 17 MR McNEVIN: 18 19 THE COMMISSIONER: No, no, still on the first statement. It is the minutes of meeting that are referred to in the 20 It is the minutes of meeting and it seems to be 21 statement. where there is a reference to - I think it is in this one, 22 23 isn't it? 24 25 MR McNEVIN: Yes, 2.2. 26 27 THE COMMISSIONER: Swabs and matters such as that. Can 28 you explain that to me, please? 29 30 MR McNEVIN: Obviously neither of us were in the meeting. 31 THE COMMISSIONER: 32 I understand that. It's the issue I'm 33 looking at, not what was said in the meeting. 34 35 MR McNEVIN: The fact that they are talking about 36 reverting to spun rayon swabs indicates that there had been a change in swab type and it seems as though that the spike 37 38 in no profile results, you know, it says: 39 Spike in "no profile" results corresponds 40 approximately with change in swab type (CA) 41 42 43 I assume "CA" is Cathie Allen, and then it says: 44 Currently in process of reverting to spun 45 rayon swabs (LS). 46 47

1	THE COMMISSIONER: Is this the problem with the spun rayon
2 3	swabs?
4 5	MR McNEVIN: Sorry? It says:
6	Currently in process of reverting to spun
7	rayon swabs
8	
9	THE COMMISSIONER: I've read the document. Can you give
10 11	me an idea of what the problem with the swabs was.
12	MR McNEVIN: Sorry, I was trying to get there. So
13	I believe that that is referring to going - that they had
14	used spun rayon swabs and then they had moved to using this
15	4N6 swab and then LS, who I assume is maybe Lindon
16	Smallwood, is then saying, "No, no, we will go back to the
17	swabs we were using before". That's the way I read that
18	2.1
19	THE COMMICCIONED. Do now word 11 thouse before a lighted of
20	THE COMMISSIONER: Do you recall there being a linked - do
21 22	you recall, from your own knowledge, any information or being told or understanding that there was an increase in
23	no DNA profiles that coincided with the use of these swabs,
24	these different swabs?
25	
26	MR McNEVIN: Vaguely, yes, as in I remember that there had
27	been a problem with the 4N6 swabs. The exact details I am
28	a bit unclear about, and I can remember it being an issue
29	that was discussed. I can't really remember a lot of
30	detail around that. And
31	MD NUDTUEN TI ((I 'I T T (I')
32	MR NURTHEN: That was the evidence I gave I think on
33	Monday. I think the recollection there was
34 35	THE COMMISSIONER: I remember there being some evidence
36	about that.
37	
38	MR NURTHEN: When you asked me about the yield issues,
39	that was what came to mind, it was those particular swabs,
40	and my recollection is that whilst those swabs would pick
41	up DNA and pick up blood very well, they weren't releasing
42	them from the swab, so when you were doing the extraction,
43	the DNA just wasn't coming off the swab, it was sticking on
44	the swab.

THE COMMISSIONER: I see.

45

46 47 0kay.

MR McNEVIN: So - sorry.

THE COMMISSIONER: Go on.

MR McNEVIN: We received a copy of Mr Neville's second statement this morning and the report on the back of that - I had completely forgotten that I had been involved in that, that testing. So rereading it this morning was like, "Oh, okay." Like I said, I've done so many different experiments and reports and things over the years, some of these things have all blended into one.

THE COMMISSIONER: How long have you worked at the laboratory?

MR McNEVIN: Since 2004.

THE COMMISSIONER: Mr Fox?

 MR FOX: Just while we're on that exhibit and that second declaration of Mr Neville, is there anything that anybody - Mr Nurthen, you were quoted in the second paragraph of that statement, and then you have obviously seen this exhibit. Is there anything further to what you have just indicated to the Commissioner that you want to say in response to that second declaration on that topic about the swabs? It is directed at both of you. Both of your names are on it, but we will start with Mr Nurthen.

MR NURTHEN: Sorry, when I was asked that question the other day with respect to any recollection about yields, that was what came to mind. I don't recall getting any formal notification from Queensland Police that they were ready to start sending us these particular swabs. That may have been the case, but I just don't recall there being any sort of formal notification. And it wasn't until we started to notice that there were issues where we weren't getting DNA profiles where it was to be expected that we actually realised that it could have been linked to these particular swab types.

MR FOX: Mr McNevin, did you want to add anything?

MR McNEVIN: Yes, on the last page of the report, it is clear that myself and my co-author have said this is not validation or verification of the swabs, it is only a small study, you might want to look at them in a bit more detail

before you implement. The last sentence:

1 2 3

... and as such no recommendation is made to either use or not use the 4N6 swab.

Second sentence:

The testing falls short of a validation or verification.

Following on:

 All results should be viewed with caution given the small sample size for each experiment and the limited number of experiments performed ...

 Looking at the materials and methods of that report this morning, we tested it with DNA IQ, which would make sense because we were going to use DNA IQ. So it is quite possible that the issue with the 4N6 swabs was related to extracting the 4N6 swabs with Chelex. I have a vague recollection of that being the issue.

THE COMMISSIONER: Can you say that again?

MR McNEVIN: My vague recollection is that the issue with the 4N6 swabs was extracting the 4N6 swabs using Chelex. So that might be the reason why you had that big jump in failure rate, due to 4N6 swabs being extracted with Chelex. But without looking at all that data and going back and looking at samples, what batches they were on, what method was used to test them, et cetera, et cetera, I really can't provide any more detail than that.

MR FOX: Thank you. Could I then just ask the three of you to turn to the statement of Ms Reeves that was circulated late yesterday. Commissioner, just so that you are aware, Ms Reeves is a former colleague of - I was going to say a colleague of the lab, but her title was that she was the forensic DNA in the forensic DNA analysis section, she was the senior/supervising reporting scientist from 2006 to 2018. So for at least a period of time, she had been a colleague of Ms Ientile and then later Mr Nurthen and Mr McNevin.

She indicates in her second statement that she, having

heard the evidence on Monday, has gone through various 1 2 documents that she has amongst her records and also cites 3 some of the transcript and then produces a document in 4 response to that. So I want to do is work through each of 5 those so that you have, as a matter of fairness, an opportunity to respond to them and make any observations 6 that you want to along the way. Can we deal with the first 7 one. That's in relation to evidence that Ms Ientile gave. 8 9 That's set out at paragraph 4 of the statement. 10 THE COMMISSIONER: I'm sorry to interrupt you, I don't 11 12 suppose there is a spare copy - oh, it is all going to come up on the screen, is it? 13 14 MR FOX: 15 It should. 16 THE COMMISSIONER: 17 It's all coming. That's all right. 18 19 MR FOX: I think it might be easier if you have one because some of these annexures can be a bit hard to follow 20 21 on. 22 23 THE COMMISSIONER: Thank you. 24 25 MR FOX: That's the statement for the Commissioner. So in relation to the quote there, Ms Ientile: 26 thank you. 27 28 In reviewing what was available to me, 29 there was no indication that there was any - in terms of the go-live or following 30 31 that, any indication that people had raised 32 any concerns about that at the time. 33 34 Then you were asked a question by the Commissioner: 35 36 By which you mean no-one said, "Hang on 37 a second, we're suddenly getting --": 38 39 MR McNEVIN: That's right, and I don't recall any of the other sort of senior 40 scientists at the time saying "Hey, should 41 we be looking into this?" 42 43 44 I don't know whether it is a typo, I assume it is accurately citing Mr McNevin responding as well. 45

46 47 deal firstly with Ms Ientile. Do you want to say anything

in response to that, but by reference to the email that is

at AJR1, and the point that Ms Reeves is endeavouring to make is that there is no indication of concerns being raised about go-live or following that by senior scientists, and that this particular AJR1 is an email from Mr Howes and Ms Reeves says that this is an indication of lack of open communication within the laboratory.

MS IENTILE: Thank you, Mr Fox. I have only had the opportunity to review this this morning, and based on my understanding of those emails, it relates, when I look at the date, the 24th, to the statement at the bottom of my initial email that was sent to all staff around raising concerns and starting, you know, discussion around that, so asking for information and feedback. And I don't have a copy, so - I believe at the end of the email I said, "That being said, if anyone has any questions they don't feel are being answered, or if there are any suggestions on how to improve the implementation process, I would be more than happy to listen and act."

My understanding is this indicates that Justin was setting up an issues log which allowed them to collate questions from each team, so they could have discussions around any questions they had rather than send them through one at a time to the automation team or to myself. And I believe there is a record of some of those issues that were raised by the staff at the time and then I believe also from my review of the records that were available to me that there was a presentation that was done by the automation team to both the major crime and volume crime scientists responding to those questions.

MR FOX: Thank you. While you are just responding to that aspect would you mind just turning to page number 2 of that statement.

MS IENTILE: Page number 2 of Amanda's statement?

MR FOX: Yes. The numbering is in the top left-hand corner. That is the next annexure, AJR2, and this is an email from you to Amanda Storer and Iman Muharam, and it's in relation to a fact sheet, and what Ms Reeves says in her statement is that this reveals the limited extent of any consultation with the reporting scientists in the lab before the system was operationalised. Would you like to just indicate your comments in response to that, please?

1	MS IENTILE: I accept that the records indicate that that
2	fact sheet might have been sent out at that particular
3	time, but there were - my understanding that there were
4	regular, almost weekly, management meetings and the
5	automation update, with Tom being a representative of the
6	management team, as was Ms Reeves, and a number of the
7	people that she refers to, that they would have been
8	receiving updates for the entire length of the project.
9	
10	MR FOX: If you just have a look at that page 2, the
11	second bullet point:
12	·
13	Where is the validation data located?
14	
15	The next bullet point:
16	·
17	 Why not listed in change management
18	
19	Then three bullet points down
20	
21	MS IENTILE: Sorry, Mr Fox, can you
22	
23	MR FOX: Still on the same page 2.
24	
25	MS IENTILE: Page, 2, yes.
26	
27	THE COMMISSIONER: Page 2 of the annexures. It is headed
28	"Questions/Issues, regarding DNAIQ."
29	MO TENTTI E
30	MS IENTILE: Yes.
31	MD FOV. Therefore There is the second health with
32	MR FOX: Thank you. There is the second bullet point:
33	. Who we is the velidation data leasted?
34	 Where is the validation data located?
35	 Why not listed in change management
36	Three or four down:
37	Tiffee of Tour down:
38	. How is the workflow to be engagined
39	 How is the workflow to be organised
40	Then the last three hullet reinter
41 42	Then the last three bullet points:
42	 What will the process be for fingernails [and]
43	scrapings - these can be very fiddly and will be difficult
44	to transfer to Slicprep?
	What is the future for hairs?
46 47	What is the future for harrs?What is the future for DLYS?
' 1	- WHAL IS CHE FULULE FOR DETS!

What does the DLYS stand for?

4 MR NURTHEN:

Differential lysis.

MR FOX: Ms Ientile, these types of matters, were you made aware of these types of concerns that are all enumerated there in those bullet points?

 MS IENTILE: I have no recollection specifically of this document but my review of the records that were available to me - this is the first time I've seen them like that, but I have seen those questions in a presentation that was - that I referred to before, just before, about the automation team responding to those questions to the major crime and volume crime teams.

MR FOX: I should be clear, that's the attachment. If you go back one page to the email, you'll see that it says "One attachment", and that's the attachment --

MS IENTILE: That's the attachment to the email.

MR FOX: That's the attachment to that email of Mr Howes.

 Then I think the next document, page 3 of that, is also to be understood as part of that first annexure, AJR1. You see there that these are - that Ms Reeves has highlighted particular parts? The handwriting, by the way, I understand to be her additions later. These are not current; these are just comments that she has made in relation to these.

Is there anything in there that you want to comment about in relation to that second attachment, which is page 3 of the AJR1?

MS IENTILE: I can't comment on what people were thinking at the time when they wrote those things, but to me, the issues that they are raising look like procedural things around specific samples, and I believe that was one of the things that the team was working out, which samples would be included and whether there were any sampling changes, and it was communicated to the whole team, is my understanding.

MR FOX: Thank you.

 Mr Nurthen, do you have any comments that you want to make about these documents in part of the AJR1, in particular, whether or not these types of issues that we see most clearly enumerated at page 2, whether they were drawn to your attention at the time of the going live?

MR NURTHEN: I don't recall whether they were brought to my attention, but they seem to be fairly standard questions, I guess, and I think I agree with Vanessa that a lot of these would appear to relate to either what the procedure was going to be - some of them would have been things that we weren't obviously validated for yet, so the hairs and the differential lysis obviously weren't part of that initial validation, but I think they were getting in early and asking questions, "Well, what are we going to do about differential lysis?" "What are we going to do about hairs?" So that doesn't actually relate to automation as it stood at the time.

Reference swabs, again, that seems to be a procedural thing, that if we got a reference for cells, how would we process it. Tape-lifts, I don't think in the first instance when we went live - we didn't include tape-lifts with the Slicpreps because we knew they were an issue, but I think when we went to the off-deck lysis, tape-lifts were then included. So again it may have been someone's asking, "Well, what are we going to do about tape-lifts?"

So my understanding is that anything that didn't conform to what we were going to put on the Slicprep would have gone through Chelex irrespective. So I'm looking at this, looking at these questions, going they're actually fair questions at the time. A lot of them appear to be related to process, around how would this process work: :

... literature to show that within the outer casing of swabs there is no DNA? Can we be certain if outer casing ...

I think that might have been in relation to sub-sampling the samples. So previously with Chelex we were using the whole swab or most of the swab, as opposed to taking just a little bit on the outside.

MR McNEVIN: We used to sometimes cut it in half.

MR NURTHEN: With Chelex, yes.

MR McNEVIN: Yes, we used to actually sample a - keep half the swab and only submit half the swab. When we very first started, that was the process in place.

MR NURTHEN: And same with the fingernails and scrapings. I think a lot of those questions I see I'm looking at are procedural questions, "How would that work with the automation", not, "These are concerns", or if they're concerns, they're concerns, "How would it actually work?"

But most of those weren't included within that first go-live because we weren't doing the tape-lifts. I'm pretty sure we weren't doing the tape-lifts, hairs and diff we weren't doing. I don't know about fingernails and scrapings. I'm not sure whether or not they were included.

MR FOX: Mr McNevin, on the top of page 2 of the statement, so this where I think I've taken you to earlier, to the quote, the Commissioner was asking a question and you were responding --

MR McNEVIN: Yes.

MR FOX: Do you want to make any observations about this particular document, given that it's being put forward - that is, this AJR1 is being put forward - responsive to the evidence that you gave on Monday?

MR McNEVIN: Well, certainly if I can remember what we were talking about on Monday when this topic came up, my mind was certainly turned towards the yield question. That was certainly what was in my mind when we were having this conversation on Monday.

Having had a look at this statement this morning, I do recall the whole - that there was a bit of a concern about using the Slicprep and the STORstar, that people were a little bit concerned about cross-contamination, because there was a little bit of a paradigm shift for the lab, because when you're using the Slicprep device, it is effectively like having 96 tubes all open at once, because it's - you don't have a lid, and so that was a little bit of a sort of mental shift from previous manual methods where you're doing one tube at a time. So I do recall that that was something that even the analytical staff were a

 little bit concerned about, and I think I mentioned that when we were talking about that device last time I gave evidence.

So certainly I do remember that element of concern, but I think in - when I'm talking there about - when we were talking about concerns, I was certainly of the mindset of what - we were having a pretty lengthy conversation about yields, from what I recall.

MR FOX: And just before you --

MR NURTHEN: Sorry, Mr Fox, can I just say one thing, with respect to the annexure page 3, that is labelled "page 3", there is a comment made about supernatant testing, and I think again we weren't doing the supernatant testing, obviously it wasn't related to these samples at the time, but I think someone, quite rightly, has actually raised, "Well, if you had supernatant testing, what are you going to do about it?" That's not included on that other page.

So again I think these are valid questions, asking how would we deal with this in the future, how would we deal with DNA IQ, how would you deal with the retained supernatant which then later evolved into that off-deck lysis and the retained supernatant testing.

MR FOX: Thank you. Now, can we then turn to the next annexure, which is AJR2, and that starts and is confined to page 4. Unfortunately the annexures don't have an AJR reference on them but there is a table which indicates what the pages are for them, so we'll work on the basis that it's confined to that one page.

This is an email, Ms Ientile, that you have sent to a couple of colleagues, you may have touched upon this earlier. Then you'll also see in the highlighted section halfway down, there's a reference to "Tom". Can I just work on the basis, Mr Nurthen, that's you?

MR NURTHEN: Yes.

MR FOX: Now, you've all had a chance to have a look at that document, I appreciate you may not have had a long look at it, but you've had a look at it.

Ms Ientile, would you like just to explain your

response to the provision of that document to the Commission by Ms Reeves?

MS IENTILE: This particular email and the highlighted section?

MR FOX: Yes. Is there anything you would like to say generally about the email and its contents?

 MS IENTILE: I believe this is an example of the continuing communication between all the teams to identify some of the issues and to resolve them. It's stating that I've received feedback on concerns around the start date and a request - because we - my recollection is there were sampling changes to be able to accommodate the DNA IQ automation and there was work around how that would be implemented and how staff would be trained about that. So it says it seems that it - it says, "People have concerns so let's change the date that we do that so we can address those concerns." You have identified what you recall as best you can those concerns - any other concerns you recall?

MS IENTILE: No. I think the fact that I have raised concerns that have been given to me indicates that they were the concerns that I had at the time, or that were made apparent to me.

MR FOX: Anything else you want to say about that before I move to Mr Nurthen?

MS IENTILE: I think, too, in support of these and the communication around these emails, they would just form some of the interactions. A group of scientists doesn't solely interact via emails. There was a structure and I've seen records to support my recollection that there was a structure in place that representatives from each of the teams attended each other's team meetings regularly and reported back to their teams so that information was shared at that level as well as the management team level.

MR FOX: All right. Thank you. I note in the next highlighted sentence under where the - there are two black asterisks on the page halfway down, the second highlighted section starts:

I would be happy to push ... start date

back ... a week or two. I don't see this 1 2 is a major change. 3 Do you have any recollection around why you were content 4 5 that a week or two would be enough in terms of pushing back the start date? 6 7 MS IENTILE: I don't have any recollection but I do note 8 9 that: 10 On to the future, how do we ... ensure that 11 all staff have an appropriate level of 12 knowledge for this process to proceed? 13 14 15 So if there were further discussions around that, that to me appears to be an invitation to the management team and 16 17 the senior scientists to examine that and make some changes 18 if that was required. 19 MR FOX: 20 Thank you. 21 22 Mr Nurthen, you are referred to in this email again, 23 halfway down in the second line of the highlighting, and then I can see a further reference to you in the last 24 25 paragraph: 26 27 I have also asked Tom to organise a session 28 once the validation reports have been 29 signed off ... 30 31 Do you see that? 32 MR NURTHEN: 33 Yes. 34 35 MR FOX. Would you like to provide your comments in 36 response to this email. 37 It looks like, just looking at the date, that 38 MR NURTHEN: 39 this would have been the start of that email chain that -40 the previous two that you mentioned, the annexures 1 and 2, I think 1, 2 and 3, would be the start of the email chain 41 42 and then as a result - because that was at 9.30, then 43 annexure number 1 was at 1.02 and 1.39. So it would appear that that was the start of the email chain and the other 44 ones subsequently followed. I recall that there would have 45 been information sessions given to the different teams, and 46

47

it says here that I've obviously given one to one of the

1	major crime - or to the major crime team.
2 3 4	MR McNEVIN: A week previous.
5 6	MR NURTHEN: A week previous? Is that what it says, yes?
7 8	MR McNEVIN: It says
9 10 11	MR NURTHEN: It would have been prior to the email, anyway.
12 13 14 15	MR McNEVIN: "at the team meeting last week" - "provided by Tom at the team meeting last week", so it was obviously a week previous to that or in the week previous.
16 17 18 19 20	MR NURTHEN: So I think, looking at it in context, it appears to be the email that Vanessa sent out with respect to seeking feedback, to the team - I had already given one presentation to the major crime team - and seeking additional feedback by the looks.
21 22 23 24 25	MR FOX: Thank you. For completeness, Mr McNevin, did you want to make any comments in relation to the content of this email?
26 27	MR McNEVIN: I don't think there's anything much to say.
28 29 30 31 32 33 34 35 36 37	MR FOX: Thank you. If we move to page number 5, then, this is the next annexure, so this is AJR3, an email from Mr Howes to Mr Nurthen and copied to Ms McNevin, this is on the day - 29 October '07 is the first day of the implementation of the automated system, and the observation is made by Ms Reeves that there was an invitation for people to tour the facility and have a look, and whether or not there had really been proper training of staff by this first date, given an email of this nature.
38 39	Now, Mr Nurthen, would you like to provide your comments in relation to that?
40	
41	MR NURTHEN: Well, I'm not sure what training - I would
42	have imagined that, in that period just prior to
43	implementation, any of the training would have been
44 45	concentrated in the analytical section with the scientists
45 46	who actually go and engage in that testing, and whether or not this was a - basically an information session for the
1 U	not this was a - basically all illibiliation session for the

47

major crime people, then, to actually walk through and see

how the robot actually worked, which might be why it wasn't any earlier because, prior to, the training was focused in analytical.

MR FOX: Thank you. Mr McNevin do you want to make any observations about that?

MR McNEVIN: Yes, I can remember looking through some emails in preparation for this Commission of Inquiry, where there was a bunch of emails about organising tours to look at the STORstar and what-not. Yes, obviously I was happy for people to come in and observe processes in the laboratory that I managed. I did that many, many times throughout the years as a manager of the analytical lab and the evidence recovery team.

MR FOX: In relation to the suggestion, I think Ms Reeves has been relatively pointed in her observation that people weren't properly trained by the time the implementation was occurring, and an email of this kind where people could come and have a look suggests that there hadn't been a proper understanding of the device and its implementation and the training of staff.

MR McNEVIN: My responsibility was to ensure that the analytical team could do the processing and that was - you know, I'm not sure it was necessarily my responsibility to drive the training of the major crime reporters.

MR FOX: Thank you. We'll move to the next one, which is AJR4, page 6. This question is directed at Mr Nurthen. This is an email that you sent around. It's said by Ms Reeves that this - an email of this kind shows the lack of consultation and information sharing immediately after the go-live date. Do you wish to say anything in response to that?

 MR NURTHEN: I think, like the previous evidence I had given on Monday, I wasn't prepared, necessarily, for the go-live, and I didn't have an implementation plan, so getting information at a later date, this would have been a "Well, here's some information, here you go." I'd already given evidence on Monday that I wasn't ready for the go-live, so I didn't have anything actually fully prepared for go-live, and that would have included all the information that ordinarily I would have liked to have distributed well in advance.

 MR FOX: Thank you. Then if we turn to the next annexure. AJR5, which is page 7, Ms Ientile, this is an email that you sent around. Just before I ask you some questions about that and to explain what you wish to say or say what you wish to on this, just in the second set of highlighting, or third set, towards the bottom:

After discussions with Tom, Cathie and Al --

Mr McNevin, do we take it that is you?

MR McNEVIN: Yes.

MR FOX: In the last line we have:

What I need from you guys is support for Tom and Al --

So that's Mr Nurthen and Mr McNevin.

Ms Ientile, would you like to provide your response to this? This is being put forward by Ms Reeves as an indicator that there were problems that had arisen with automation but there was no cessation in use of the device. So we can see the date is 18 April 2008, and I think the first contamination event was in January 2008. That was reported. So I will leave it to you, I give you the chronology --

MR McNEVIN: Sorry to interrupt, Mr Fox. I think that wasn't uncovered until a little bit later. It wasn't immediately obvious at the time that the contamination had occurred, I believe.

MR FOX: I will take that from you, thank you for that indication. Ms Ientile, do you want to now respond to what is being put forward by Ms Reeves - that is, there is some awareness that the device is not working properly and that it should have been ceased - ceased to be used around this time rather than persisted with? .

MS IENTILE: Certainly, thank you. I note the date, Friday the 18th, and when I - in my statement, I have made a statement that I, the next day, went overseas on a laboratory tour and conference, so I - my understanding

of this is that we were in the process, as a laboratory, of trying to understand the details and do a full investigation of the contamination events, and that in my absence, I had spoken to other people who would be coordinating it.

MR FOX: Thank you. Mr Nurthen, in relation to the reference to you where it says "discussions", as to what was the best course of action at this stage, do you recall those discussions and what they were about?

MR NURTHEN: I would imagine, given the date, 18 April 2008, I think this is all relating to DNA IQ contamination, and if I could just draw your eye to the paragraph just below the first highlighted one, so we stopped using the robot, it says we will keep on extracting but we will move the process to a manual process.

So that indicates to me the concern with the robot - let's just go manual for a little bit and see if we can work out what's going on.

MR McNEVIN: It says part of the process.

MR NURTHEN: Or part of the process will be moved to a manual process.

MR McNEVIN: That must be when we moved to off-deck lysis.

MR NURTHEN: No, much earlier than that, we had already gone to the off-deck lysis. So I think part of this would have been around trying to troubleshoot and trying to work out - I think the statement I gave to the last Commission, which dealt with contamination, probably has more detail with respect to that. So I think the discussion that would have been involved would have been in relation to how are we going to try to investigate this contamination.

MR FOX: Do you have any recollection, when it says "part of the process will be moved to a manual process", what part is being referred to?

 MR NURTHEN: No, I don't know. But I imagine if it was part of the process, it would have been to try to troubleshoot if it was the contamination we're concerned with, whether we took off - and I do recall there being experiments relating to re-extracting from the lysates,

I think I mentioned that on Monday, to see if we could determine where the contamination had occurred from. So whether or not that relates to that and from that lysate then doing a manual extraction to see if there was anything in there. That's what it may relate to.

MR FOX: Mr McNevin, given the two references to you and discussions that were had, do you have any recollection of what those discussions were and anything you would like to say responsive to this email?

MR McNEVIN: Oh, well, I don't recall exactly what those conversations were. Naturally, as the head of the analytical team at the time and my understanding of the process, I would imagine that both Cathie and Vanessa were seeking out Tom's and my understanding of the process and wanting to dig a little deeper. That would be my guess, but that's only my guess and supposition. I don't really remember those conversations. Certainly it doesn't seem to indicate that Tom and I were in a decision-making capacity. So I'm not quite sure why that's been added as a dot point at a later date.

MR FOX: Unless anyone has anything further, we will move to page 8, annexure AJR6. We're going back now in time to 26 October, so this is the - it would appear to be the Friday before the launch on the Monday. It is an email from Mr Howes to Ms Reeves and others, and the point that Ms Reeves makes of this is that she says that this indicates a lack of communication in relation to the launch, so to speak, or the implementation. You will see there a reference in the first highlighting to a management meeting, and it says:

... but Tom wasn't there and it was difficult to get points across.

Mr Nurthen, I will start with you. What do you wish to say in relation to this email and perhaps your understanding of what that management meeting may have been about that you didn't manage to attend.

 MR NURTHEN: I'm not sure because there doesn't appear to be anything at the top or this is a fragment of the email, because it is a "re", and whether that relates to - whether there is another email that has been omitted that occurred prior to it. Because I don't have any context to know what

it was, "difficult to get the points across" - it says something about Sam going to discuss something with me, but then Justin saying:

I think the first thing to happen, before having the many questions answered, is for every reporting scientist ... to read and understand the SOP back-to-front then go into the section for a demo ...

So he is recommending, at least by the looks of this, that all of the reporting scientists read the standard operating procedure before asking questions.

Thank you. Unless anyone has anything further they want to say about that, we will move to the next.

MR McNEVIN: I think the last sentence of the email, part of that chain from 24 October, the last sentence there, where Justin has written:

The workflow use of forceps/fire, suction of Slicprep etc seem to be the main concerns in the YT --

I assume that's yellow team --

so far.

That would accord with statements we made earlier about what we think people might have been concerned about.

The next annexure comprises pages 9, 10 and 11, This is the email of 26 November 2007. We're now a month or so after the introduction of the automated Can I just ask you to turn back in the declaration to paragraph 12, and the reason this email, or these three pages, are being referenced by Ms Reeves is because of something that Mr McNevin said on Monday:

I was just going to say I don't recall, and over the years I did do various data mining exercises. I don't recall doing that at the time and I also don't recall anyone else raising it as something that would be a worthwhile study.

What Ms Reeves raises is that this email shows that scientists wanted data on comparing the success rate between Chelex and the DNA IQ automated system. So I will start with Mr McNevin. Would you like to provide a response? You can also see, I think it is on page 9, just so we're clear, there is a first highlighted section and then towards the end of that paragraph:

7 8 9

10

11

1

3

4

5

6

Just my rambling thoughts cheers
Al.

12 13

And then the sign-off from you. Would you mind providing your comments in relation to this email?

14 15 16

17

18 19

20

21

22 23

24

25

26

I don't recall that email until I read MR McNEVIN: Sure. That's not surprising, given the fullness it this morning. I was always in favour of doing data mining exercises and I think my email there quite clearly shows that I was supportive of the idea. But, yes, I can't remember - I don't even remember whether we ended up doing that data that I have suggested here was a good idea. looks like I was supportive of the idea and I had jotted down a few additional thoughts about that. I don't know I don't really remember that email, what else I can add. but it's certainly clear that I was supportive of gathering I just don't know whether it was ever done.

272829

30 31 MR FOX: Thank you. Just for completeness, Mr Nurthen, is there anything you want to add about that in terms of the assertion that has been made by Ms Reeves and what this email might suggest?

32 33 34

35

36

37

38

39

40

41

42

MR NURTHEN: No, well, I agree with Allan, it seems that across on the following page, page 10 of the annexure, that Al and I were interested in the success rates for cigarette butts as well, and thought it might be interesting to look at them and look at the range of results. Yes. I don't recall there being - I think, like Allan said, I don't recall there actually being any success rates or that done at the time. It doesn't mean there wasn't, but obviously we were talking about it at the time and it seemed like a sensible thing to do.

43 44 45

46 47 MR FOX: Let me take you to paragraph 14 of the statement, which references the response from Mr Nurthen to questions posed by Mr Holt on Monday:

And again in terms of the significance of go-live, and, Dr Nurthen, you might recall this, but I think it's clear from the memorandum that Ms Ientile sent at the time to all staff, that initially it was only to be that the automated DNA IQ system was to be used for high-volume backlog cases, not everything across the board?

And you indicated "That's my understanding".

 MR NURTHEN: From that memorandum, but I think I also said all major crime stuff other than sexual assault and other sample types. I think I also clarified that as well in my evidence.

 MR FOX: Yes, thank you. Would you then just, with that context, turn to page 12 of the statement, which is annexure AJR8, 24 October 2007, so again just a few days before the implementation of the automated system, an email from Ms Ientile, and Ms Reeves provides this as an email which she says evidences that, contrary to some evidence that the expert Ms Veth provided on Tuesday about doing reference samples first before moving to use for casework - I will start with Mr Nurthen because he was quoted in the paragraph, so that you can provide - and then I will move to Ms Ientile because it is an email that has been sent by you. Mr Nurthen, would you like to provide your comments in response to that?

MR NURTHEN: I think, like I said, that initial comment that I was quoted from, I thought I also clarified to say I actually thought it was all major crime cases, rather than just the volume ones. I was taking what had been quoted to me as that it was in a memorandum, which this isn't the memorandum that was being spoken about.

MR McNEVIN: Can I point out that - what is it, sentence or line 4 or paragraph 4 of that email:

I understand that there are discussions underway about when Major crime team will commence sampling in the new size format, and I expect this to be in place within the next few weeks.

So that would indicate that the only samples available for implementation on 29 October - is that the date, 29 October, it was implemented?

MR FOX: That's right.

 MR McNEVIN: That would indicate that the only samples that are actually available for implementation are volume crime samples because the major crime team hadn't commenced sampling the new size format. That's the way I read that email. I don't actually recall what we actually did, but just reading that now, that appears to be what it says to me.

MR FOX: Is there anything else?

MR NURTHEN: No, nothing else.

MR FOX: Ms Ientile, it's your email. Would you like to provide your best recollection of what was being conveyed there and also responsive to Ms Reeves's point about using the automated system, rolling it out for all casework and not for reference samples firstly?

MS IENTILE: My understanding from - I will start with the reference samples, and I acknowledge the testimony and the evidence on Tuesday from the experts, but it says:

At this stage only casework extractions are going live. FTA processing will remain as is for the moment.

FTAs are the reference samples and it is my understanding that because it was FTA paper, there was a different extraction process. I can't remember the details, but it didn't involve the whole lysis process. So that would be an explanation for why that occurred.

In the top part, as I have said previously, from reading this, it indicates that we started on backlog samples, that because we were training, we didn't expect a large number of samples to be put through in this format, and that there was still work being done around the sampling processes and the training of staff, particularly in the major crime area.

MR FOX: Thank you. And then if we would turn to pages 13

and 14, which are the last annexure, AJR9, these are two emails dated 3 December 2007 and, then, four months later, 14 April 2008. Mr McNevin, if you go back to paragraph 16, just to understand the context in which this is raised, you gave some evidence on Monday about the massive backlog and the need to move to automation. There is a reasonably long extract there, you recall that evidence. And then these two pages are said to support the position that it evidences that there was a significant priority placed on throughput, meaning just to get through the backlog; as a consequence, quality and proper lab operations suffered. In other words, it was an inappropriate process to push it through so hard. Do you wish to respond to that assertion, and by reference to these emails? Do they support that in your view?

15 16 17

18 19

1

3

4

5 6

7

8

9

10

11 12

13

14

MR McNEVIN: I think it's just emails to indicate that I was trumpeting that my team was doing a good job. As a manager, it was something that I felt was important to do. I don't think it indicates anything but that.

21 22 23

24

25 26

20

MR FOX: Ms Ientile and Mr Nurthen, you were present in the lab at that time. Is there anything that you want to make - I will start with Ms Ientile, is there anything you want to make in terms of an observation responsive to the point that Ms Reeves says that these emails indicate? Is there anything you want to say in response to that?

27 28 29

30

31

32 33

34

35

36

37

38

39

MS IENTILE: I would like to give a little bit of context in terms of what those numbers were reflecting. They were numbers around the throughput. So as we may have referred to, in 2005 there was a ministerial review and there were a number of recommendations, and we were at this time still implementing those. Part of those recommendations was both permanent funding for staff and temporary funding for One of the things that we did as a laboratory back in 2005 was to identify the workflow and the capacity of each section. We needed to understand what each area was able to do to justify applications to keep that temporary funding post the end of that date.

40 41 42

43

44

45

46 47 So it was not only the analytical section and - the whole team, every staff member, was involved in the development of and defining what the key performance indicators and targets were. They were adjusted on a daily basis, and they took into account whether people were training and different levels of expectation, complexity of

case type, tasks, so there was obviously tasks that were easy to count, number of samples put through a particular test, and then there were tasks that were more complex around examination of a case and a varying number of exhibits in that case; preparation of a statement; all of those things were broken down and mapped out, and that was to inform any information that we could to justify that we required continuing increases of funding.

MR FOX: Thank you. Mr Nurthen, did you wish to make any comments?

MR NURTHEN: I don't have anything to add to that.

MR FOX: Mr McNevin?

 MR McNEVIN: So if we remember the context at the time and the fact that we received this funding to go about automation and get through a backlog, I think it was right and proper of me as a manager to celebrate the success of my team, in the same way that the lab is not in a dissimilar situation now, and that we would again celebrate the success of reducing backlog. I don't see that that would be something that you would not do as a manager of a department.

MR FOX: Thank you. I have no further questions.

 THE COMMISSIONER: I have a few. Just Ms Ientile, you mentioned that 2005 ministerial review, or whatever it was There was a recommendation in there, I don't know if you recall it and I don't have it in front of me at the moment, I'm afraid, but there was a recommendation with respect to the automation that was recommended to be undertaken there, and there was a recommendation about how validation of that would be brought about. Do you recall? I see Mr Nurthen nodding. Do you recall, or does anyone recall that, because from memory - and I may be paraphrasing - I am paraphrasing because I haven't got it in front of me - it said that - it commented that validation could take a long time, and there was a recommendation that the validation be, I can't remember, not be done, but take account of the ability to validate by using a validation in another lab.

 MR NURTHEN: I recall part of that talked about putting in an automation team, as in taking people offline, because

I know prior to that validations were concurrent with what 1 2 people were normally doing in the laboratory, which was obviously a problem in terms of if you've got a very long 3 validation and someone has to go offline for a long period 4 5 of time - I thought some of those recommendations referred to the establishment of an automation team where they were 6 7 taken completely offline to be able to do that validation but also then obtaining validations from other areas to 8 9 help in the validation, given the complexities of it. 10 THE COMMISSIONER: Did that recommendation play any part 11 in the way you undertook the validation of the DNA IQ 12 extraction method? 13 14 15 MR NURTHEN: Yes - well, for me I say yes because we had that Western Australian one, we had that knowledge that 16 17 that method was going to require some additional work, and we had had those conversations with those other 18 19 laboratories, given that we hadn't done that kind of thing 20 before. 21 THE COMMISSIONER: 22 Does anyone else want to add anything 23 to that, Ms Ientile? Because you said that that was in your mind at this sort of time frame. 24 25 And I think the time frame from - I mean, 26 MS IENTILE: 27 again, I also don't have the document in front of me, 28 but --29 MR FOX: I can provide it. 30 31 I don't recall if it stated the time frame 32 MS IENTILE: 33 for completion. 34 35 MR FOX: I'm just passing that document to Ms Ientile. . 36 MS IENTILE: 37 Thank you. 38 39 THE COMMISSIONER: Recommendation 8 says: 40 It is recommended that the Chief Executive 41 ensures that when validating 42 Officer ... 43 future equipment the validation work undertaken by other jurisdictions to 44 introduce equipment and/or automation 45 processes is utilised to minimise

46 47

validation time while maintaining

1 2 3	scientific accountability and integrity by 31 October 2005.
5 5 6 7 8 9	MS IENTILE: My interpretation of that was that that would be like you would do in any process, would be to gather information from multiple sources, and that was in fact done by the team in terms of forming an automation user group.
10 11 12 13	THE COMMISSIONER: I'm just talking about a time frame. At the time, for example, of Project 13, were you still considering this report?
14 15	MS IENTILE: No, I was not.
16 17 18 19	THE COMMISSIONER: Was anybody considering what was in this report when they were carrying out Project 9, 11 and 13?
20 21 22 23 24 25 26	MS IENTILE: I believe I might have been still required to report against recommendations, but I would have been reporting and updating on where the projects were at and reasons why they were at those stages, and they were well past the dates that the ministerial review had implied that we could achieve.
27 28 29 30	MR NURTHEN: As Vanessa said, there was an automation users group started with all the other laboratories that had the same instruments, so we were in constant contact with those other users.
31 32 33 34 35 36 37 38	THE COMMISSIONER: Thank you. I've got a few more questions just arising, actually, with respect to the second statement of Superintendent Neville, and that's the experiment, and then some of the evidence this morning. Can I just clarify something? The manual - the Chelex method was reintroduced for use when, in June 2009?
39 40	MR NURTHEN: July 2008, when the robots went down with the contamination.
41 42 43 44 45	THE COMMISSIONER: July 2008. Sorry, I meant 2008. And Chelex was then used until the automated method was recommenced in when?

MR NURTHEN:

In I think it was around August 2009.

1 2 3	THE COMMISSIONER: Right. So in that time frame, the extraction was being done by Chelex?
5 4 5 6	MR NURTHEN: And some manual DNA IQ batches were also done.
7 8 9	MR McNEVIN: And there was another method, nuclear spin, that we also used at times as well.
10 11 12 13 14 15	THE COMMISSIONER: You were saying there was an issue of the swabs and whether or not the swabs - this is now going back to this experiment. Mr McNevin, there was an issue with the swabs and the swabs were on - there was an issue with the swabs, with the Chelex extraction working on the swabs. Is that what you recall?
17 18 19 20	MR McNEVIN: I seem to recall that that's what was ultimately thought about. I can't actually remember whether we definitively did it but
21 22 23	THE COMMISSIONER: Because I just want to take you through - I want to take you through this experiment.
24 25 26 27 28	MR McNEVIN: Yes, I just don't think we ever - I don't recall whether we ever did some testing with Chelex and those 4N6 swabs to see if that was the actual issue or not. I don't actually recall.
29 30 31 32	THE COMMISSIONER: Well, if there was an issue about swabs coming off Chelex, you would test it with Chelex, wouldn't you?
33 34 35 36	MR McNEVIN: Yes, that's right. So I don't know whether that testing ever got done or whether that was how we knew that Was the problem. I really don't recall.
37 38 39 40	MR NURTHEN: I think to put it into context as to when the trial occurred, so the trial occurring before
41 42	THE COMMISSIONER: Which trial are you talking about?
43 44 45	MR NURTHEN: As in the 4N6 swabs, because that's what you are about to ask; is that correct?
46 47	THE COMMISSIONER: Yes.

That trial occurring, some of the swabs being 1 MR NURTHEN: 2 received at the laboratory, testing was done and then 3 eventually we started to receive some of those swabs in 4 from Queensland Police. There were notes I know made in a management team meeting at some stage where they had run 5 6 out of those swabs anyway so they were going to flick back 7 to their normal swabs. 8 9 THE COMMISSIONER: But your recollection is that it could have been the swab issue that gave rise to this 32 per cent 10 increase --11 12 MR McNEVIN: Yes. 13 14 15 THE COMMISSIONER: -- experienced in 2008/9? 16 17 MR NURTHEN: Partially. I guess without drilling into the data to know exactly --18 19 THE COMMISSIONER: 20 Well, it corresponded with the swab 21 issue. 22 23 MR NURTHEN: It may have. I don't know because I don't 24 know where the underlying data comes from. 25 26 THE COMMISSIONER: Just looking at this experiment that's 27 annexed here, the trial of the swab. It says that the 28 aims - the swabs will be compared to two criteria: 29 ability to extract DNA from each swab type; and then the ability of each swab type to uptake DNA. This experiment 30 31 is 22 January 2009. But when you look at experiment 1, you go over to page 2, and you go down to the second paragraph, 32 towards the end of it, it says: 33 34 35 The DNA was extracted from the lysed 36 solutions using the DNA IQ kit ... on a dedicated MultiPROBE --37 38 39 Et cetera. So it seems that this experiment was using the MultiPROBE extraction method not the Chelex extraction 40 method? 41 42 43 MR McNEVIN: Yes, that's right. That's right. So I think 44 everything in this --45 THE COMMISSIONER: But if there was a problem with

46 47

Chelex --

MR McNEVIN: I don't know whether this - I would say that this experimentation was carried out before that date at the bottom of the page, and I don't know whether it was carried out in response to - it certainly wasn't carried out in response to issues being raised of - issues being raised of whether the - sorry. I'll start my sentence again.

This experimentation wasn't carried out in response to QPS having implemented the 4N6 swabs and then identifying that they are getting poor results, or we are within - someone within the lab identifying that we got poor results. From records I was having a look at this morning, this experimentation was done because they sent us some swabs to test, and I think the timeline of that is all covered in the '22 - 2022 inquiry.

THE COMMISSIONER: Let me put some dates to you. I've got here from the statement of Mr Nurthen, I think to the Sofronoff Inquiry of 13 October 2022. You say there, and it's a short sentence, so it's just for the dates, according to the minor changes register, the manual method for DNA IQ extractions was reintroduced on 19 June 2009 and on 20/8/2009, the automated DNA IQ extraction commenced on the extraction platform, okay?

MR NURTHEN: Okay, yes.

THE COMMISSIONER: We've got this experiment here, related here, which all seems to have been done with the DNA IQ system.

MR McNEVIN: Mmm-hmm.

THE COMMISSIONER: In a period of time when I thought it wasn't being used?

MR McNEVIN: Look, I can't recall. As I said --

THE COMMISSIONER: It also says on page 10 - it points out that the methods used, employed in the laboratory, are the ones employed at the time of testing.

 MR McNEVIN: Yes. So the testing may have been done quite some time prior to January 2009. It could have been done prior to July 2008 when we were still using DNA IQ, for all

I can recall. I don't have any of that data there. So, you know, it's a reasonably big report, it probably took me some time to write it up. I certainly wouldn't have done the testing myself. It looks as though I would have asked Kieran to actually do the testing because I wasn't on the tools, I was busy being a supervisor of the team. But I would say it probably took some time to get all that written up. So there would have been the - you know, a range of time periods when all that testing was done.

There were some emails I think which were provided as part of the 2022 COI between myself and a lady named Lyza McMenz, Lyza-Jane McMenz, who worked for QPS, who worked for Inspector Neville, and about her sort of bringing the swabs out, and it appears as though from those emails, that there was sort of - I had got some from the company that had supplied the swabs and then she gave me some more swabs, so the testing may have initially started with DNA IQ and then I continued to finish it. certainly was probably with a view to the fact that DNA IQ, even if the testing had continued once we had stopped using the robot, it was probably with a view to investigating it against DNA IQ because that was always going to be the method that we were going to use long term, and the return to Chelex was only ever a stopgap solution to resolving the other issues.

THE COMMISSIONER: I am confused. I thought there was a problem with Chelex and the swabs and this was meant to test that.

MR NURTHEN: No, this was. The Queensland Police had discovered these new swabs and they wanted us to test those swabs. So they'd sent a portion of those swabs to us to see how they would perform. So I think Allan's right, the reason it was tested with DNA IQ is there was always the intention to reimplement DNA IQ, so they've given us some swabs to test and we've tested them and the report's gone back to the police, presumably in this form.

THE COMMISSIONER: Let me ask you a question: where here - what I haven't looked at is what were the results of the extraction from the swabs using DNA IQ?

MR McNEVIN: The results are there under that - you know, release of DNA from blood, experiment 1; number 2, release of DNA from blood over dilution series. That all appears

4	to be board on DNA
1 2	to be based on DNA
3	THE COMMISSIONER: Were you getting good DNA extracted?
5 6 7	MR McNEVIN: It seems as though with DNA IQ, based on a small sample number, the 4N6 swab was performing, you know - and I think I have said that in the
8 9 10 11	THE COMMISSIONER: Sorry, just take me through this, will you? It says sample 1, the 4N6 swab, has 0.8 nanograms per microlitre. The cotton swab, 0.4, that's 50 per cent.
12 13	MR McNEVIN: Yes.
14 15 16	THE COMMISSIONER: The rayon swab 0.62.
17 18	MR McNEVIN: Yes.
19 20 21	THE COMMISSIONER: Sample 2 drops down from 0.5 to 0.26 for the cotton swab.
22 23	MR McNEVIN: And 0.6 for the rayon swab.
24 25 26	THE COMMISSIONER: And 0.6 for the rayon swab. Can you just explain to me exactly, because I haven't had a chance to read it for this purpose, what - in that context.
27 28 29 30	MR McNEVIN: So it looks like 30 microlitres of whole blood for experiment 1.
31 32	THE COMMISSIONER: Say that again.
33 34 35 36 37 38 39	MR McNEVIN: So 30 microlitres of whole blood was applied directly to the surface of five swabs. I'm reading from the top of page 2. So then the results for experiment 1, it seems as though we did five replicates of 30 microlitres of whole blood. They were the yields from the DNA IQ extraction, as described
40 41 42	THE COMMISSIONER: There was a marked reduction for the cotton swab wasn't there?
42 43 44 45 46 47	MR McNEVIN: It does seem as though the cotton swab on average gave less results than the 4N6 swab. It's only a small sample number. There is a bit of variation there, but it does seem as though, just on the face of it, that the 4N6 swab gave slightly better DNA yields than the

cotton swab.

THE COMMISSIONER: Per
better, isn't it?

Percentage-wise it's substantially

MR McNEVIN: But it's only a small sample number. It's one --

THE COMMISSIONER: Is there anything here that would indicate you were not getting good extraction?

MR McNEVIN: No, and that's because it was tested with DNA IQ and that's what I'm thinking that the subsequent problem was when - because we had returned to the use of Chelex and then those 4N6 swabs got tested with Chelex rather than DNA IQ is why we probably - why we then observed a problem because they were extracted with Chelex rather than DNA IQ.

 I'm sure if we'd got the 4N6 swabs and put them through a DNA IQ extraction, we would have got results that were certainly reflective of what we had seen with this small sample number. I would imagine that it wouldn't have been too dissimilar.

THE COMMISSIONER: Do you want to ask any further questions in relation to that?

MR FOX: No.

 THE COMMISSIONER: I might just give myself five minutes just before we let the witnesses go, to think of whether there's anything further I wish to - there is a chronological issue here with it as well and I want to make sure that I have clarified it.

MR FOX: Yes. I will have a think on that too.

THE COMMISSIONER: Okay. Well, maybe - I might just take a five-minute adjournment and I'll just take this with me.

SHORT ADJOURNMENT

 MR FOX: Do you happen to have the Sofronoff Inquiry report, the final report? I know you have a print-out of the summary, but I was I wondering whether you have it with you today.

THE COMMISSIONER: I do.

 MR FOX: Would you mind just turning to paragraph 599? Mr McNevin's legal representatives just indicated to me in the five-minute break that they think relevant to the chronology that you have been asking about, that that part of the final report assists. I indicated that they could draw this to Mr McNevin's attention just during the five-minute break so that he would have some awareness of what you are now looking at.

THE COMMISSIONER: Do you want me to give it to him?

MR FOX: No. If he needs another copy, his legal reps will just hand that to him now. He has had a quick read of it, but it just seemed to be of assistance, and I'm grateful for their indication that this might attend to the chronological issue that you have raised.

THE COMMISSIONER: Have you had a chance to read that, Mr McNevin?

MR McNEVIN: Yes.

 THE COMMISSIONER: I'm just trying to clarify at the date of the work that's being done, what tests were being used in the laboratory at the time. We know that the tests were being done on the DNA IQ with the MultiPROBE, which wasn't apparently being used in the laboratory at that time - or was it?

MR McNEVIN: Okay, so --

THE COMMISSIONER: And did you ever test the swabs with Chelex?

MR McNEVIN: As far as that particular report goes, it's all DNA --

THE COMMISSIONER: Say that again.

MR McNEVIN: As far as that particular report goes, it's all DNA IQ.

THE COMMISSIONER: Right. That's apparent on the face of it.

MR McNEVIN: Yes, that's from what I can read. As I said, I actually had forgotten all about that report until I read it this morning.

THE COMMISSIONER: No, you did say that at the beginning, I remember that.

MR McNEVIN: From my rereading of it, it's all DNA IQ. As I mentioned a little bit earlier, I mentioned some emails between myself and Lyza-Jane McMenz, who worked for QPS, about the swabs themselves and I believe that this is an excerpt in paragraph 599 from some of those emails, and I think if you were to go back to my statement, you would probably see the full email. I think there was something about - I looked at an email this morning where I've actually said to Lyza, "I've tested the five swabs that I got from the supplier. I've redone that testing, you know. Can you send me out the rest of them so we can finish off the testing", words to that sort of effect, in those emails.

As you can see here, some of those emails are actually - one of those emails is dated 18 April 2008. So that predates the cessation of the automated DNA IQ method. So it indicates to me that we were doing some testing that, you know, confirms that we were using DNA IQ because that was the method that was in place at the time, when we certainly - when we commenced that testing.

Now, whether we continued to finish off this little bit of the experimentation subsequently, I can't recall.

THE COMMISSIONER: No, I understand, okay. But do you recall whether you actually ever - bearing in mind you were using Chelex for a time, do you remember testing - just do you remember the swabs using Chelex?

MR McNEVIN: I don't remember using - testing those 4N6 swabs with Chelex in a specific experiment to, you know, determine whether --

THE COMMISSIONER: Determine the uptake and the release.

MR McNEVIN: Yes, and certainly it doesn't appear as though - you know, given that I would have been searching for data, for documents that included 4N6 swabs as part of

the Sofronoff Inquiry, I would imagine if there was some sort of report, which, you know, I was quite good at writing up those reports when I did that experimentation, that I would have had some sort of document that summarised, you know, my findings. I don't recall finding one.

THE COMMISSIONER: Thank you. I have no further questions.

MR FOX: Thank you. I think that completes the evidence, then, unless anybody -

THE COMMISSIONER: Does anybody have any questions for any of the witnesses?

MR RICE: Commissioner, allow me to draw attention to an additional document that has some bearing on the nature and extent of interaction between scientists at the implementation - at the point of implementation. The document in question is a PowerPoint presentation. It is entitled --

THE COMMISSIONER: Is this in evidence?

MR RICE: No, it is not. That's why I'm drawing attention to it.

THE COMMISSIONER: You could draw attention to something in evidence or something new. Go on.

MR RICE: It is new and it touches on this question and adds to the store of information that has been discussed. Perhaps if I give the document number, and I will tender it as well. It is FSQ.0001.0001.0403. It's a 14-page slide show entitled "Questions regarding DNA IQ", dated 29 October 2007. Now, could I ask one question in relation to that.

 Mr Nurthen, you have heard me describe this document, and I appreciate you haven't seen it, although it's just now being brought up. What I was going to ask you is: if there was a presentation of this kind on that date, who would have been the audience for it?

MR NURTHEN: If this is questions, it could have been anyone within the laboratory, you know, it could have been

1 2 3	either the whole laboratory or it could have been just parts of the laboratory that were concerned.
4	MR RICE: I will tender that document, Commissioner.
5 6 7 8	THE COMMISSIONER: That will in due course be given whatever number it needs, or it has. I'm not organising the numbering systems.
9 10 11	EXHIBIT TENDERED AS PER SCHEDULE
12 13	THE COMMISSIONER: Any other questions for any of the three witnesses?
14 15	MR DIEHM: No, Commissioner, thank you.
16 17	MR McLEAN-WILLIAMS: No, Commissioner.
18 19	UNIDENTIFIED SPEAKER: No questions.
20 21 22 23	THE COMMISSIONER: Thank you. Now it would seem that you are excused. There you go.
24 25	<the td="" withdrew<="" witnesses=""></the>
26 27 28	MR FOX: That completes the evidence and then it is a matter of turning to the submissions. You indicated yesterday a timing for various parties
29 30 31 32	THE COMMISSIONER: No-one indicated they want to make any oral submissions. Has anyone changed their mind?
33 34 35	MR FOX: I haven't heard any rumours to suggest that the views have changed.
36 37 38 39 40 41	THE COMMISSIONER: Two things we need to deal with now. One is, does anyone else have any material ready? We have two issues left - that's any documentary material that anyone wishes to put in with an explanation of which parts of it and what they take from it? Please bear in mind when you put documentary material in that we will not - the
42 43 44	hearing part of this Inquiry is going to cease at the end of tomorrow and there is no time available for further witness oral evidence, so whatever anyone puts in in

46 47 documentary form, you must bear in mind that, in the

absence of the ability to put those documents to any other

person, that could well affect (a) what we draw from those

documents on their face and (b) the weight to be given to those documents and the fact that they have not been able to be put to other witnesses.

It is just a factor of the time of the Inquiry, so when you are thinking about documents to be tendered, please bear that in mind. I'm not stopping you from doing it but, as you can see, sometimes two people read a document and they don't draw the same conclusions from it. So that's the point.

Now, does anyone - can everyone please give me an indication of whether you plan to tender more material and, if so, when you can get it to me.

The other thing is, when you anticipate your written submissions can be sent in today..

MR RICE: There will be no further evidence from Queensland Health, Commissioner. Our submissions are with our client, so to speak, to be finalised and I expect that will be done in the course of the afternoon.

THE COMMISSIONER: This afternoon.

MR RICE: This afternoon.

THE COMMISSIONER: Bearing in mind that we need to have time to have a quick understanding of them just in case something arises tomorrow.

MR RICE: They will be read quite quickly, Commissioner.

THE COMMISSIONER: Okay, thank you. Just on this side of the table, or this side of the room?

MR DIEHM: Commissioner, work has continued on our written submissions, which I indicated yesterday would be able to be provided by close of business today. Given that we're at quarter past 12, we have lost a little bit of time about that, I had actually been going to raise with you as to whether or not we might be able to extend into first thing tomorrow morning.

 THE COMMISSIONER: No, I don't think so, because - it depends, I haven't asked Mr Fox how long he is thinks he will be. It would be helpful for him to have those

submissions, even if they are in draft form and just for him, in order for him to be able to structure that into what he wishes to raise tomorrow, possibly.

MR DIEHM: I see. Perhaps I hadn't been appreciating that there was an intention for Mr Fox to be addressing in submissions tomorrow.

THE COMMISSIONER: I thought Mr Fox was going to address in submissions tomorrow?

MR FOX: That was your plan, I think. I was going to stick to your plan, if I could.

THE COMMISSIONER: Look, there is not sufficient time for Mr Fox to do full written submissions and get the report out in time, for me to consider those submissions and get the report out. So I think what I had envisaged was that Mr Fox would do a summary overview of his submissions tomorrow, and by doing it here and publicly, everyone else can hear them, other counsel can hear them, so that if there is anything you need to add or respond to, you can do that tomorrow.

MR DIEHM: Sorry, I hadn't appreciated that.

THE COMMISSIONER: I hadn't made it clear.

MR DIEHM: Very well. Look, we will give you what we are able to at the end of the day.

THE COMMISSIONER: I don't mind, as long as Mr Fox has it for the purposes of his submission. You can fix them up, you know, and add to them if you want to for me, it is just so he gets the substance of them, really.

MR DIEHM: Quite so, understood.

THE COMMISSIONER: Anybody else?

MS HUGHES: Yes, Commissioner, we're in the same position. We will endeavour to have them finalised as close as we can by the end of today and can at least provide Mr Fox with a draft by close of business and otherwise we will finish it up overnight.

THE COMMISSIONER: "By close of business", I think I had

1 2 3 4 5	better put a time limit on that, because I have been in situations where the Bar's close of business can be midnight or thereafter. So when I say "close of business", I think we would like it by 5 o'clock.
6 7	MR DIEHM: That's what I mean by that.
8 9 10 11	MR McLEAN-WILLIAMS: We'll do a short written submission. We will give an outline of that to Mr Fox by close of business today.
12 13 14 15	UNIDENTIFIED SPEAKER: Yes. May it please the Commission, in respect to the scientists, on behalf of whom we act, we expect to be able to provide a submission prior to 4pm today. And we don't anticipate any further material.
17 18 19 20 21	THE COMMISSIONER: Mr Diehm, you didn't talk about further material and no-one else raised further material, Queensland Health did. Is anyone else planning to put in further material?
22 23	MR DIEHM: No, Commissioner.
24 25	MS HUGHES: No, Commissioner.
26 27 28 29	THE COMMISSIONER: Okay, that's very helpful. So what I haven't asked, Mr Fox, is, in terms of a starting time tomorrow, do you have any present idea, if we start at 10 o'clock, there will be no trouble finishing tomorrow?
30 31 32 33 34	MR FOX: I think at the moment I am - I - I will commit to saying something but that may horrify people, but I would expect to be something around about an hour, you know.
35 36 37 38	THE COMMISSIONER: I have never yet heard any estimation by any barrister of the amount of time that he or she will take to be complied with, pretty well, but it gives me a framework or a ballpark figure, I think.
39 40 41 42	MR FOX: Yes, I'm saying that because of your expectation that I give everybody sufficient understanding about what I'm going to submit.

43

THE COMMISSIONER: I think so everybody understands what the issues are so I don't think you need to go through every fact, chapter and verse.

47

1 2 3	MR FOX: No, I don't propose to. I really propose to hit the high points in terms of particular findings, in my submission, the Commissioner
4 5 6 7	THE COMMISSIONER: I think that means if we start at 10 o'clock - are you content to start at 10 o'clock?
8 9 10	MR FOX: I was going to suggest 12, if that was possible. If I'm pushing that, we will do 10.
11 12 13	THE COMMISSIONER: My only concern is that there is a cut-off point. We can compromise at 11.
14 15 16 17	MR FOX: If we're horse trading, sure. I'm working on the basis that there won't be too much inclination from what I have heard so far for people to want to say anything orally.
19 20 21 22 23	THE COMMISSIONER: If we start at 11, even if you complete by lunchtime, that then gives the other counsel an opportunity to consider whether they wish to say anything extra, and they would have a luncheon adjournment to enable them to do so. If not, we'll just conclude.
24 25	MR FOX: Yes, I think that will work well.
26 27 28 29	THE COMMISSIONER: Is there any objection to that course from anybody?
30	MR DIEHM: No, Commissioner.
31 32	MR McLEAN-WILLIAMS: No, Commissioner.
33 34	MS HUGHES: No, Commissioner.
35 36	THE COMMISSIONER: All right. We will adjourn until 11am.
37 38 39 40 41 42 43 44 45 46	AT 12.20PM THE COMMISSION OF INQUIRY WAS ADJOURNED UNTIL FRIDAY, 3 NOVEMBER 2023 AT 11AM

	295:23, 295:25,	299:14, 301:41,	324:46	ago [1] - 286:28
	295:27, 297:5,	311:2, 328:39	able [11] - 281:18,	agree [2] - 297:10,
'07 [1] - 302:31	298:19, 301:40,	30 [4] - 282:33,	285:22, 300:15,	308:34
'22 [1] - 317:17	301:41, 316:32,	319:28, 319:33,	311:39, 313:7,	aims [1] - 316:28
	318:46, 319:19,	319:36	325:2, 325:38,	AJ7 [1] - 307:34
0	319:35	31 [1] - 314:2	325:42, 326:2,	AJR [1] - 299:30
0.26 // 240.40	2.1 [1] - 290:18	32 [5] - 280:26, 288:2,	326:30, 327:14	AJR1 [6] - 294:1,
0.26 [1] - 319:19	2.2 [1] - 289:25	288:24, 288:37,	ABOVE [1] - 279:42	294:4, 296:27,
0.4 [1] - 319:11 0.5 [1] - 319:19	20/8/2009 [1] - 317:25 2004 [1] - 291:16	316:10	absence [2] - 305:4, 324:46	296:36, 297:3, 298:28
0.6 [2] - 319:22,	2004 [1] - 291.16 2005 [7] - 280:39,	33 [1] - 287:41 363 [1] - 278:22	absolute [1] - 281:34	
319:24	285:22, 288:9,	303 [1] - 270.22	AC [1] - 278:29	AJR2 [2] - 294:40, 299:29
0.62 [1] - 319:15	311:32, 311:37,	4	accept [1] - 295:1	AJR3 [1] - 302:29
0.8 [1] - 319:10	312:30, 314:2		- access [1] - 282:12	AJR4 [1] - 303:31
0.0 [1] 0.10.10	2005/6 [4] - 280:24,	4 [4] - 293:9, 299:30,	accommodate [1] -	AJR5 [1] - 304:3
1	280:32, 281:33,	309:40	300:15	AJR6 [1] - 306:25
•	285:13	40 [1] - 278:22	accord [1] - 307:30	AJR8 [1] - 309:20
1 [12] - 279:28, 279:29,	2006 [4] - 280:39,	4N6 [20] - 287:1,	according [1] - 317:23	AJR9[1] - 311:1
285:39, 289:7,	280:42, 285:22,	290:15, 290:27,	account [2] - 311:46,	AI [4] - 304:10, 304:19,
301:40, 301:41,	292:43	292:4, 292:21,	312:43	308:11, 308:36
301:43, 316:31,	2006/7 [5] - 280:25,	292:22, 292:28,	accountability [1] -	alarm [5] - 284:27,
318:46, 319:10,	280:33, 280:34,	292:30, 315:26,	314:1	285:33, 285:42,
319:29, 319:35	281:29, 282:46	315:43, 317:11,	accurately [1] -	285:46, 286:7
1.02 [1] - 301:43	2007 [4] - 307:34,	319:6, 319:10,	293:45	alert [1] - 284:46
1.39 [1] - 301:43	309:20, 311:2,	319:44, 319:47,	achieve [1] - 314:25	alerted [1] - 286:43
10 [7] - 307:33,	323:37	320:15, 320:20,	acknowledge [1] -	alerting [1] - 286:45
308:35, 317:41,	2007/8 [2] - 280:25,	322:39, 322:47	310:26	alerts [2] - 285:3,
327:29, 328:6, 328:9	280:35	4pm [1] - 327:14	act [2] - 294:19,	285:6
10.30am [1] - 278:25	2008 [11] - 288:10,		327:13	ALLAN [1] - 280:7
10.32am [3] - 280:2, 280:5, 280:7	288:17, 304:27, 304:28, 305:13,	5	acting [1] - 279:26	Allan [2] - 308:34,
11 [9] - 280:26,	311:3, 314:39,	5 [2] - 302:28, 327:4	action [1] - 305:9	308:39
280:28, 280:35,	314:42, 317:47,	50 [1] - 319:11	actual [2] - 284:40,	Allan's [1] - 318:35
288:2, 288:37,	322:24	599 [2] - 321:4, 322:13	315:26	Allen [1] - 289:43
307:33, 314:17,	2008/9 [5] - 280:26,		add [8] - 287:45, 291:42, 308:25,	allow [1] - 323:17
328:12, 328:19	280:34, 281:30,	6	308:30, 312:13,	allowed [1] - 294:22
11am [1] - 328:36	288:40, 316:15	-	313:22, 326:22,	almost [1] - 295:4
11AM [1] - 328:39	2009 [5] - 314:37,	6 [4] - 280:25, 280:33,	326:34	Amanda [2] - 279:28, 294:41
12 [9] - 280:30,	314:46, 316:31,	288:9, 303:31	added [1] - 306:21	Amanda's [1] - 294:37
280:38, 280:41,	317:24, 317:46		additional [4] -	amount [3] - 283:24,
282:33, 307:37,	2010 [7] - 280:29,	7	302:20, 308:24,	288:12, 327:36
309:19, 325:40,	280:38, 281:30,	7 [4] - 280:25, 280:33,	313:17, 323:18	analysis [2] - 287:37,
328:8	282:21, 282:46,	280:35, 304:3	additions [1] - 296:30	292:41
12.20PM [1] - 328:38	285:13, 285:45	200.55, 504.5	address [2] - 300:19,	analytical [8] - 284:44,
13 [5] - 278:15,	2018 [1] - 292:43	8	326:9	298:47, 302:44,
310:47, 314:11,	2020 [1] - 280:41		addressing [1] - 326:6	303:3, 303:14,
314:18, 317:21	2022 [3] - 317:17,	8 [6] - 280:20, 280:21,	adds [1] - 323:33	303:26, 306:14,
14 [3] - 308:45, 311:1,	317:21, 318:12	306:25, 313:39	adjourn [1] - 328:36	311:42
311:3	2023 [3] - 278:25,		adjournment [2] -	Andrew [1] - 278:34
14-page [1] - 323:36	279:29, 328:39	9	320:40, 328:22	Annabelle [1] - 278:29
16 [1] - 311:3	22 [1] - 316:31		adjusted [1] - 311:45	annexed [1] - 316:27
18 [3] - 304:27,	24 [2] - 307:19, 309:20	9 [3] - 307:33, 308:5,	advance [1] - 303:47	annexure [13] - 289:7,
305:12, 322:24	24th [1] - 294:11	314:17	aegis [1] - 284:4	294:40, 296:27,
18th [1] - 304:45	26 [2] - 306:26, 307:34	9.30 [1] - 301:42	affect [1] - 324:47	299:14, 299:29,
19 [1] - 317:24	29 [4] - 302:31, 310:2,	96 [1] - 298:43	affirmation [2] -	301:43, 302:29,
2	310:3, 323:37		280:4, 280:7	304:2, 306:25,
	3	Α	afraid [1] - 312:33	307:33, 308:35,
2 [15] - 278:25, 294:34,		ability [4] - 312:43,	- afternoon [3] -	309:20, 311:1
294:37, 295:10,	3 [7] - 296:26, 296:36,	316:29, 316:30,	325:22, 325:24,	annexures [4] -
	·	510.25, 510.50,	325:26	293:20, 295:27,

000 00 004 40	000.05	045.4		
299:30, 301:40	296:35	315:4	bringing [1] - 318:15	certainly [16] - 287:34,
answered [2] -	attend [2] - 306:41,	bear [3] - 324:40,	Brisbane [2] - 278:21,	287:38, 298:31,
294:17, 307:6	321:18	324:45, 325:7	278:22	298:33, 298:34,
anticipate [2] -	attended [1] - 300:38	bearing [3] - 322:35,	broad [1] - 283:26	299:5, 299:7,
325:16, 327:15	attention [8] - 281:14,	323:18, 325:28	broad-based [1] -	304:44, 306:19,
anyway [2] - 302:10,	288:40, 297:6,	before" [1] - 290:17	283:26	308:26, 317:5,
316:6	297:9, 321:9,	beginning [1] - 322:6	broken [1] - 312:6	318:3, 318:20,
apart [1] - 287:7	323:17, 323:26,	behalf [1] - 327:13	brought [5] - 287:35,	320:22, 322:29,
apparent [2] - 300:27,	323:29	bell [6] - 284:27,	288:40, 297:8,	322:45
321:46	audience [1] - 323:44	285:29, 285:42,	312:36, 323:42	cessation [2] -
appear [6] - 297:11,	August [1] - 314:46	285:46, 286:7,	bullet [6] - 295:11,	304:26, 322:25
297:34, 301:43,	Australian [1] - 313:16	287:40	295:15, 295:19,	cetera [3] - 292:33,
306:26, 306:43,	author [1] - 291:45	bells [1] - 280:42	295:32, 295:41,	316:39
322:45	automated [10] -	below [1] - 305:15	296:8	chain [4] - 301:39,
applications [1] -	288:4, 302:32,	Bennett [1] - 278:29	bunch [1] - 303:10	301:41, 301:44,
311:39	307:35, 308:3,	best [3] - 300:21,	business [6] - 325:39,	307:19
applied [1] - 319:33	309:7, 309:21,	305:9, 310:20	326:44, 326:47,	chance [4] - 289:8,
appreciate [3] -	310:22, 314:43,	better [6] - 281:31,	327:2, 327:3, 327:10	299:43, 319:25,
286:28, 299:44,	317:25, 322:25	285:16, 288:36,	busy [1] - 318:6	321:21
323:41	automation [16] -	319:47, 320:4, 327:1	butts [1] - 308:37	change [6] - 289:37,
appreciated [2] -	294:25, 294:30,	between [11] - 279:4,	BY [1] - 279:42	289:41, 295:17,
287:15, 326:25	295:5, 296:15,	281:29, 283:8,		295:35, 300:19,
appreciating [1] -	297:18, 298:10,	283:47, 284:26,	С	301:2
326:5	300:16, 304:26,	285:13, 300:11,		changed [3] - 283:23,
appropriate [1] -	311:6, 312:19,	308:3, 318:12,	CA [2] - 289:41,	324:31, 324:34
301:12	312:34, 312:47,	322:11, 323:19	289:43	changes [4] - 296:43,
April [4] - 304:27,	313:6, 313:45,	big [6] - 283:47,	capacity [2] - 306:20,	300:15, 301:17,
305:12, 311:3,	314:7, 314:27	287:36, 288:37,	311:37	317:23
322:24	available [7] - 279:45,	292:29, 318:2	care [2] - 286:22	chapter [1] - 327:46
area [3] - 284:43,	293:28, 294:28,	biology [1] - 283:2	carried [4] - 317:3,	cheers [1] - 308:10
310:45, 311:38	296:11, 310:1,	bit [19] - 286:44,	317:5, 317:10	Chelex [33] - 288:4,
areas [3] - 283:12,	310:8, 324:43	287:7, 288:2,	carrying [2] - 282:29,	288:8, 288:10,
283:14, 313:8	average [2] - 288:32,	290:28, 291:47,	314:17	288:15, 288:18,
arisen [1] - 304:25	319:44	293:20, 297:44,	case [9] - 282:38,	288:21, 288:26,
arises [1] - 325:30	aware [5] - 281:13,	298:38, 298:40,	282:39, 282:42,	288:36, 292:22,
arising [1] - 314:33	281:35, 283:17,	298:41, 298:44,	291:35, 312:1,	292:28, 292:30,
AS [2] - 279:42,	292:39, 296:7	299:1, 304:33,	312:4, 312:5, 325:29	297:32, 297:42,
324:10	awareness [2] -	305:20, 311:29,	cases [2] - 309:8,	298:1, 308:3,
aspect [1] - 294:34	304:40, 321:10	319:45, 322:10,	309:34	314:36, 314:43,
assault [1] - 309:14	-	322:32, 325:40	casework [3] - 309:25,	315:2, 315:14,
assertion [2] - 308:31,	В	black [1] - 300:43	310:22, 310:29	315:25, 315:30,
311:13	-	blended [1] - 291:11	casing [2] - 297:38,	316:40, 316:47,
assistance [1] -	back-to-front [1] -	blood [18] - 280:23,	297:39	318:25, 318:29,
321:17	307:8	281:15, 281:17,	Cathie [3] - 289:43,	320:15, 320:17,
Assisting [3] - 278:32,	backlog [6] - 309:8,	281:18, 281:20,	304:9, 306:15	321:36, 322:36,
278:34, 278:35	310:40, 311:5,	281:26, 283:46,	caution [1] - 292:14	322:37, 322:40
ASSISTING [1] -	311:10, 312:19,	284:1, 284:5,	cease [1] - 324:42	Chief [1] - 313:41
279:42	312:23	284:10, 287:42,	ceased [2] - 304:41	choosing [1] - 282:6
assists [1] - 321:8	bad [2] - 286:21,	290:41, 318:46,	celebrate [2] - 312:20,	chronological [2] -
assume [4] - 289:43,	287:25	318:47, 319:29,	312:22	320:34, 321:19
290:15, 293:44,	badly [1] - 287:23	319:33, 319:37	cells [1] - 297:22	chronology [2] -
307:26	ballpark [1] - 327:38	bloodstained [3] -	cent [20] - 280:25,	304:30, 321:7
assumed [1] - 286:37	Bar's [1] - 327:2	282:14, 282:15,	280:26, 280:30,	cigarette [1] - 308:36
assuming [1] - 282:25	barrister [1] - 327:36	282:40	280:33, 280:35,	circulated [1] - 292:38
asterisks [1] - 300:44	based [4] - 283:26,	board [1] - 309:9	280:38, 280:41,	cites [1] - 293:2
AT [2] - 328:38,	294:9, 319:1, 319:5	book [1] - 279:8	282:33, 287:41,	citing [1] - 293:45
328:39	basis [5] - 282:30,	bottom [3] - 294:11,	288:2, 288:9,	clarified [3] - 309:15,
attachment [6] -	299:32, 299:39,	304:7, 317:4	288:24, 288:37,	309:33, 320:35
296:18, 296:20,	311:46, 328:15	break [2] - 321:6,	316:10, 319:11	clarify [3] - 280:9,
296:22, 296:24,	batches [2] - 292:32,	321:10	certain [1] - 297:39	314:36, 321:26
,,,				

			0=0.00	
clear [6] - 291:45,	327:22, 327:24,	325:45, 326:9,	279:39	coordinating [1] -
296:18, 308:6,	328:3, 328:30,	326:15, 326:27,	conclude [1] - 328:23	305:5
308:26, 309:4,	328:32, 328:34	326:32, 326:39,	conclusions [1] -	copied [1] - 302:30
326:27	COMMISSIONER [130]	326:47, 327:17,	325:9	copy [6] - 279:44,
clearly [2] - 297:5,	- 279:1, 279:13,	327:26, 327:35,	concurrent [1] - 313:1	279:45, 291:5,
308:19	279:22, 279:44,	327:44, 328:5,	conference [1] -	293:12, 294:15,
client [1] - 325:21	280:9, 280:17,	328:11, 328:19,	304:47	321:15
close [7] - 325:39,	281:6, 281:43,	328:27, 328:36	confidence [1] -	corner [1] - 294:40
326:42, 326:44,	282:1, 282:20,	commit [1] - 327:31	286:42	correct [1] - 315:44
326:47, 327:2,	282:32, 282:45,	communicated [1] -	confined [2] - 299:29,	correlate [1] - 282:18
327:3, 327:9	283:4, 283:17,	296:44	299:33	corresponded [1] -
co [1] - 291:45	283:30, 283:35, 283:41, 284:8,	communication [4] -	confirms [1] - 322:27	316:20
co-author [1] - 291:45		294:6, 300:11,	conform [1] - 297:31	corresponds [1] -
COI [1] - 318:12	284:16, 284:21, 284:36, 285:3,	300:33, 306:30	confused [1] - 318:28	289:40
coincided [2] -	285:11, 285:28,	company [1] - 318:17	confuses [1] - 288:2	cotton [5] - 319:11,
281:14, 290:23	285:35, 286:9,	compare [1] - 285:38	consequence [1] -	319:20, 319:41,
collate [1] - 294:22	286:19, 287:10,	compared [1] - 316:28	311:11	319:43, 320:1
colleague [3] -	287:14, 287:19,	comparing [1] - 308:2	consider [2] - 326:17,	Counsel [3] - 278:32,
292:39, 292:40,	287:23, 287:31,	complaints [2] -	328:21	278:34, 278:35
292:44	287:45, 288:14,	281:24, 284:9	considering [2] -	counsel [2] - 326:21,
colleagues [1] -	288:23, 288:31,	complete [1] - 328:19	314:12, 314:16	328:20
299:36	288:39, 288:47,	completely [2] -	constant [1] - 314:29	COUNSEL [1] -
collected [4] - 281:1,	289:14, 289:19,	291:7, 313:7	consultation [2] -	279:42
282:11, 283:14,	289:27, 289:32,	completeness [2] -	294:44, 303:34	count [1] - 312:2
283:45	290:1, 290:9,	302:22, 308:29	contact [1] - 314:29	couple [1] - 299:36
collecting [1] - 282:5	290:20, 290:35,	completes [2] -	contamination [16] -	course [5] - 281:34,
coming [4] - 286:19,	290:46, 291:3,	323:11, 324:26	280:40, 285:43,	305:9, 324:6,
290:43, 293:17,	291:13, 291:18,	completion [1] -	286:38, 286:42,	325:22, 328:27
315:30	292:25, 293:11,	313:33	287:24, 288:43,	Court [2] - 278:21,
commas [1] - 280:37	293:17, 293:23,	complex [2] - 286:5,	298:40, 304:28,	278:22
commence [1] -	295:27, 312:29,	312:3	304:34, 305:3,	court [1] - 279:8
309:44	313:11, 313:22,	complexities [3] -	305:13, 305:34,	covered [1] - 317:17
commenced [3] -	313:39, 314:10,	284:24, 288:7, 313:9	305:37, 305:45,	crime [18] - 283:13,
310:9, 317:25,	314:16, 314:32,	complexity [1] -	306:2, 314:40	283:25, 294:30,
322:29	314:42, 315:1,	311:47	content [3] - 301:4,	296:16, 302:1,
comment [4] - 296:34,	315:10, 315:21,	complied [1] - 327:37	302:23, 328:6	302:19, 302:47,
296:38, 299:15,	315:29, 315:41,	comprises [1] -	contents [1] - 300:8	303:28, 309:14,
309:32	315:46, 316:9,	307:33	context [12] - 280:47,	309:34, 309:43,
commented [1] -	316:15, 316:20,	compromise [1] -	282:15, 285:18,	310:9, 310:45
312:40	316:26, 316:46,	328:12	285:20, 302:16,	criteria [1] - 316:28
comments [10] -	317:19, 317:30,	concentrated [1] -	306:47, 309:19,	criticisms [1] - 279:32
279:33, 294:46,	317:36, 317:41,	302:44	311:4, 311:29,	cross [1] - 298:40
296:31, 297:2,	318:28, 318:41,	concern [4] - 298:38,	312:17, 315:38,	cross-contamination
301:35, 302:23,	319:3, 319:9,	299:5, 305:19,	319:26	[1] - 298:40
302:39, 308:14,	319:15, 319:19,	328:11	contextual [1] -	current [1] - 296:31
309:29, 312:11	319:24, 319:31,	concerned [7] -	279:18	cut [2] - 297:46,
Commission [6] -	319:40, 320:3,	279:17, 286:36,	continued [4] -	328:12
278:14, 286:32,	320:9, 320:26,	298:40, 299:1,	318:19, 318:21,	cut-off [1] - 328:12
300:2, 303:9,	320:31, 320:39,	305:45, 307:31,	322:31, 325:37	
305:33, 327:12	321:2, 321:13,	324:2	continuing [2] -	D
COMMISSION [1] -	321:21, 321:26,	concerns [18] -	300:11, 312:8	J-11 044 45
328:38	321:35, 321:41,	278:15, 280:17,	contrary [1] - 309:23	daily [1] - 311:45
Commissioner [20] -	321:46, 322:6,	293:32, 294:2,	contributing [1] -	data [21] - 281:1,
278:29, 291:25,	322:34, 322:43,	294:13, 296:7,	288:5	281:40, 282:3,
292:38, 293:25,	323:8, 323:14,	298:10, 298:11,	conversation [2] -	282:5, 283:21,
293:34, 298:21,	323:24, 323:29,	299:7, 300:13,	298:35, 299:8	284:30, 284:32,
323:17, 324:4,	324:6, 324:12,	300:18, 300:20,	conversations [3] -	287:33, 287:37,
324:15, 324:17,	324:21, 324:30,	300:21, 300:25,	306:13, 306:19,	292:31, 295:13,
325:20, 325:32, 325:37, 326:41,	324:36, 325:24,	300:26, 307:24	313:18	295:34, 307:42,
020.01, 020.41,	325:28, 325:34,	conclave [2] - 279:3,	conveyed [1] - 310:20	308:2, 308:18,

DESCRIBED[1] - dissimilar [2] - 287:5, 287:33, 287:37, 291:9, 279:42 312:22, 320:24 described [3] - distributed [1] - 282:14, 284:3 303:47 288:40, 310:43, 310:43, 313:6 described [3] - 282:14, 284:3 303:47 288:40, 310:43, 313:45 296:19, 296:22 313:6	316:18, 316:24, 318:1, 322:47 date [19] - 279:31, 294:11, 300:13, 300:19, 300:47, 301:6, 301:38,	292:34, 305:34 details [3] - 290:27, 305:2, 310:35 determine [3] - 306:2, 322:41, 322:43 development [1] - 311:44	282:43, 283:8, 285:14, 285:25, 286:4, 286:15, 286:37, 288:19, 288:21, 288:28,	318:3, 318:9, 321:27, 321:29, 325:22 dot [1] - 306:21	302:17, 302:24, 302:29, 302:36, 303:20, 303:32,
3181.1, 322.47 305.2, 310.25 286.14, 286.25, 331.27, 321.29, 302.29, 302.29, 303.22, 294.11, 300.13, 300.23, 300.23, 300.13, 300.23, 300.23, 300.24, 300.23, 300.24, 300	318:1, 322:47 date [19] - 279:31, 294:11, 300:13, 300:19, 300:47, 301:6, 301:38,	details [3] - 290:27, 305:2, 310:35 determine [3] - 306:2, 322:41, 322:43 development [1] - 311:44	285:14, 285:25, 286:4, 286:15, 286:37, 288:19, 288:21, 288:28,	321:27, 321:29, 325:22 dot [1] - 306:21	302:29, 302:36, 303:20, 303:32,
date 279-31 305.2 310.35 286.4 286.15 325.22 303.20, 303.33, 304.3 300.19 300.47 322.41 322.43 286.21 286.28 286.21 286.28 300.19 300.47 322.41 322.43 286.21 286.28 280.42 281.33 306.23 306.33 306.43 302.36 303.35 311.44 290.43 290.24 291.29 282.20 287.25 306.40 307.34	date [19] - 279:31, 294:11, 300:13, 300:19, 300:47, 301:6, 301:38,	305:2, 310:35 determine [3] - 306:2, 322:41, 322:43 development [1] - 311:44	286:4, 286:15, 286:37, 288:19, 288:21, 288:28,	325:22 dot [1] - 306:21	303:20, 303:32,
284-11, 300-13, 300-19, 300-47, 300-47, 300-47, 300-47, 300-47, 300-47, 300-47, 300-47, 300-47, 300-47, 300-48, 300-47, 300-48, 300-	294:11, 300:13, 300:19, 300:47, 301:6, 301:38,	determine [3] - 306:2, 322:41, 322:43 development [1] - 311:44	286:37, 288:19, 288:21, 288:28,	dot [1] - 306:21	
301-9, 300-47, 301-8, 301-18, 301-18, 301-18, 301-18, 301-18, 301-18, 301-18, 301-18, 301-18, 301-18, 301-18, 301-18, 301-18, 301-18, 301-18, 301-18, 301-12, 301-12, 301-12, 301-12, 301-12, 301-12, 301-12, 301-12, 301-12, 301-12, 301-12, 301-12, 301-12, 301-12, 301-12, 301-18, 301-18, 301-13,	300:19, 300:47, 301:6, 301:38,	322:41, 322:43 development [1] - 311:44			
303.6, 303.55, 304.27, device 3-298.42, 292.41, 297.38, doubling 3-280.45, 307.18, 303.41, 305.12, 299.2, 303.22, 292.41, 297.38, 281.29, 282.45, 308.11, 308.11, 308.13, 308.14, 309.12, 309.22, 309.23, 309.24, 316.23, 316.24, 309.21, 309.22, 309.23, 309.24, 316.23, 319.13, 317.13, 319.13,		311:44	290 23 290 41	45451 6 [4] - 200.50,	306:10, 306:27,
303.41, 304.27, 299.2, 303.22, 292.41, 297.38, 281.29, 282.45, 307.34, 307.37, 308.41, 308.12, 306.22, 310.2, 304.26, 304.40, 299.24, 300.15, 308.16, 308.18,	302:36, 303:35,		200:20, 200: : :,	280:42, 281:33,	306:39, 306:44,
306:12, 310:2, 304:26, 304:40 299:24, 390:15, down 11-28:24:31, 308:16, 308:19, 308:14, 308:12, 306:22, 310:2, 306:22, 310:2, 306:23, 326:5, 326:5, 326:29, 315:4, 316:29, 301:23, 308:24, 309:21, 309:22, 309:24, 312:2, 322:24, 326:37, 327:6, 316:30, 316:35, 312:6, 314:39, 310:11, 310:19, 323:37 327:22, 328:30 316:30, 316:35, 312:6, 314:39, 310:11, 310:19, 323:37 327:17 317:25, 317:31, Dright 126:34 317:19, 317:22, 317:24, 317:25, 317:31, 317:25, 317:31, 317:25, 317:31, 317:25, 317:31, 317:25, 317:31, 317:25, 317:31, 317:29, 317:39, 317:29, 317:29, 318:30, 318:37, 318:30, 3			290:43, 291:38,	287:25	306:46, 307:18,
308-22, 310-2, 304-26, 304-40, 305-15, 308-13, 308-13, 311-40, 317-3, 311-40, 317-3, 311-40, 317-3, 311-41, 317-3, 311-41, 317-3, 311-41, 317-4, 318-15, 318-3, 318-3, 318-24, 309	303:41, 304:27,	device [5] - 298:42,	292:19, 292:20,	doubling [3] - 280:45,	307:34, 307:37,
331-140, 347:3, 325:37, 326:5, 309:7, 313:12, 299:38, 300:44, 309:21, 309:22, 309:24, 309:24, 309:24, 309:24, 309:22, 309:24,	304:44, 305:12,		292:41, 297:38,	281:29, 282:45	308:1, 308:14,
32126, 323:43 325:37, 326:5, 309:7, 313:12, 299:38, 300:44, 309:21, 309:22, 309:40, 311:2, 322:24, 326:37, 327:6, 316:30, 316:35, 316:36, 317:24, 316:32, 318:19 322:15, 322:16 327:22, 328:30 316:30, 316:35, 317:24, 316:32, 318:19 322:15, 322:16 327:22, 328:30 316:30, 316:35, 317:24, 316:32, 318:19 322:15, 322:16 327:22, 328:30 316:30, 316:30, 317:24, 316:32, 318:19 322:15, 322:16 327:22, 328:30 316:30, 316:30, 317:24, 316:32, 318:19 322:15, 322:16 327:29. 317:49, 317:22 difference 21	306:22, 310:2,	304:26, 304:40	299:24, 300:15,	down [11] - 284:31,	308:16, 308:19,
dated - 279-27, 326-25, 326-29, 315.4, 316-29, 301-23, 308-24, 309-28, 309-40, 311-2, 322-24, 326-37, 327-6, 316-36, 317-24, 316-35, 312-6, 314-39, 310-11, 310-19, 323-37 327-22, 328-30 316-36, 317-24, 316-32, 319-19 322-15, 322-16 322-16, 322-16 326-24, 341-24, 317-19, 317-22 difference 2 - 283-47, 285-12 318-20, 318-23, 318-31, 326-44 294-13, 300-33, 226-33, 226-34, 226-34, 236-34, 226-	311:40, 317:3,	DIEHM [9] - 324:15,	305:13, 308:3,	295:19, 295:37,	308:25, 308:32,
311-2, 322-24, 326-37, 327-6, 316-30, 316-35, 312-6, 314-39, 310-11, 310-19, 322-15, 322-16, 322-32, 316-32, 316-32, 319-19, 322-15, 322-16, 322-32, 317-19, 317-22, 317-22, 317-23, 318-33, 318-45, 318-33, 318-33,	321:26, 323:43	325:37, 326:5,	309:7, 313:12,	299:38, 300:44,	309:21, 309:22,
323:37 327:22, 328:30 316:36, 317:24, 316:32, 319:19 322:15, 322:16 228:15, 314:24, 317:19, 317:25, 317:31, 279:34, 309:3 emailed - 286:33, 286:34, 237:19, 317:25, 283:47, 285:12 318:36, 318:37, 326:41 326:41,	dated [4] - 279:27,	326:25, 326:29,	· · · · · · · · · · · · · · · · · · ·	301:23, 308:24,	
dates s - 284:41,	311:2, 322:24,	326:37, 327:6,		312:6, 314:39,	
285:24, 314:24, diff(m) - 298:15 317:47, 318:19, 279:34, 309:3 emails [19] - 286:32, 286:34, 294:10, 300:33, 280:31, 280:11 difference [2] - 318:26, 318:23, 318:23, 318:23, 286:44 294:10, 300:33, 300:33, 280:31, 280:11 different [11] - 284:26, 318:43, 318:46, draw [8] - 305:14, 300:35, 303:9, 301:0, 311:2, 302:19, 323:17, 303:10, 311:2, 303:10, 311:2, 303:10, 311:2, 303:10, 311:2, 303:10, 311:2, 303:29, 324:47, 311:14, 311:17, 329:23, 299:24, 291:9, 301:46, 320:13, 320:16, drawin [1] - 297:6, 318:16, 322:10, 324:36 dealt [1] - 306:32 deficient [1] - 282:7, 322:25, 332:27, drilling [1] - 384:31 322:23, 322:24, drilling [1] - 384:31 decision [1] - 306:20 deck [4] - 297:26, dillution [1] - 318:47 decision [1] - 306:20 deck [4] - 297:26, dillution [1] - 318:47 decision [1] - 306:20 deck [4] - 297:26, dillution [1] - 318:47 decreased [1] - 288:6, 303:31 directly [3] - 288:55, 319:34 decreased [1] - 308:30 discovered [1] - 333:21 discovered [1] - 333:21 decreased [1] - 306:17 definitively [1] - 306:17 definitively [1] - 306:17 defining [1] - 316:37 declication [1] - 306:17 defining [1] - 316:37 declication [1] - 306:17 defining [1] - 316:37 declication [1] - 306:17 declicated [1] - 316:37 declicated [1] - 306:39 declicated [1] - 306:39 declicated [1] - 306	323:37	327:22, 328:30		316:32, 319:19	
317:19, 317:22		Diehm [1] - 327:17		Dr [3] - 278:29,	
David		diff [1] - 298:15		279:34, 309:3	
280.11		difference [2] -		draft [2] - 326:1,	
das		283:47, 285:12		326:44	
deal 293.4 284.4 284.3 293.4 284.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 288.4 284.3 388.2 288.5 288.4 284.3 288.4 284.3 388.2 288.5 288.4 284.3 388.2 288.5 288.4 284.3 388.2 288.5 288.4 288.4 284.3 388.2 288.5 288.4 288.4 284.3 388.2 288.5 288.4 288.4 284.3 388.2 288.5 288.4 288.4 284.3 388.2 288.5 288.4 288.4 284.3 388.2 288.5 288.4 288.4 288.4 284.3 388.2 288.5 288.4 288.4 288.4 284.3 388.2 288.5					
293.7, 293.46, 287.6, 290.24, 319.37, 319.47, 325.9 311:26, 318:11, 299:23, 299:24, 291:9, 301:46, 320:13, 320:16, 320:21, 320:26 drawn [n] - 297:6 drawn [n] - 297:4, 302:25 302:27, 302:29, 30	• • • •				
299:23, 299:24, 291:9, 301:46, 320:13, 320:16, 320:13, 320:16, 322:13, 322:10, 322:36 310:34, 311:47 320:18, 320:12, 321:39, 321:40, 321:39, 321:39, 321:40, 321:40, 3	,	285:41, 287:5,			
324:36 321:39, 301:34, 311:47 320:18, 320:21, drawn[1] - 297:6 322:13, 322:21, drawn[1] - 297:6 322:23, 322:24 dealing [1] - 305:34 297:14, 297:17 321:44, 322:9, drilli [1] - 284:31 322:23, 322:24 decision [1] - 306:20 286:5, 286:41, 323:36 decision-making [1] - 295:44, 306:36, 306:20 307:1 deck [2] - 297:26, dig [1] - 306:17 299:25, 305:28, dilution [1] - 318:47 299:25, 305:28, directed [2] - 291:27, declaration [3] - 291:21, 291:26, directly [3] - 286:35, 313:34 307:36 decrease [1] - 288:6 decrease [1] - 288:6 decrease [1] - 318:37 deeper [1] - 306:17 288:11 defining [1] - 316:37 defining [1] - 307:9 department [1] - 307:9 294:13, 305:35 departments [2] - 284:23, 301:15, describe [1] - 323:40 describe [1] - 323:47 describe [1] - 323:40 describe [1] - 323:40 describe [1] - 323:47 describe [1] - 323:40 describe [1] - 323:47 describe [1] - 32		· ·			
dealing - 285:35 differential 3 - 296:4, 321:29, 321:39, differential 3 - 296:4, 297:14, 297:17 321:44, 322:9, drilli - 284:31 drilli - 284:31 drive - 303:28 drive - 303:30 drive - 303:28 drive - 303:30 dri		, ,	, ,		
dealt (ij - 305:34 297:14, 297:17 321:44, 322:9, drilling (ij - 316:17 drive (ij - 303:28 dropped [a] - 316:17 drive (ij - 303:28 dropped [a] - 280:30, 280:31, 280:39, 280:37, 280:39, 280:31, 283:2, 283:1, 283:1, 283:2,					
December (1) - 311:2 difficult (8) - 282:7, 322:25, 322:27, driming (1) - 303:28 317:42, 317:43	•			• •	
decision					
decision-making n				• •	
306:20 307:1 document [17] - 280:41, 282:32 283:1, 283:2, 290:9, 290:95, 305:28, dilution [1] - 318:47 293:3, 296:11, 299:25, 305:28, directed [2] - 291:27, 296:26, 298:27, 299:44, 300:1, 303:31 299:44, 300:1, 321:9 326:43 294:42, 326:30, 283:31, 299:44, 300:1, 321:9 326:42, 326:30, 326:43 299:24, 291:26, directly [3] - 286:35, 319:34 decrease [1] - 288:6 discovered [1] - 318:33 323:4, 323:48, 323:40, 324:44, 325:9 documentary [8] - 318:37 318:38, definitively [1] - 306:17 281:37, 281:38, definitively [1] - 311:44 285:1, 285:8, defining [1] - 311:44 285:1, 285:8, defining [1] - 311:44 285:1, 285:8, demorphically [1] - 307:9 294:13, 305:35 department [1] - 312:25 294:23, 301:15, department [1] - 312:25 294:23, 301:15, department [2] - 285:40, 285:41 305:10, 306:8, department [2] - 325:40, 325:40 306:9, 309:42 306:9, 309:42 306:9, 309:42 306:47, 308:40, 310:43, 308:40, 310:43, 306:9, 303:47 308:40, 310:43, 306:9, 303:47 308:40, 310:43, 306:9, 303:47 308:40, 310:43, 306:9, 306:22 313:6 and comment [7] - 294:15, 294:41, 286:10, 313:6 313:6 313:6 313:6 and comment [7] - 296:19, 296:22 313:6 and comment [7] - 296:19, 296:22 313:6 and comment [7] - 296:19, 296:22 313:6 and comment [7] - 296:19, 296:29 323:30 32:5 and comment [7] - 296:19, 296:29 306:29 306:29 306:29 306:40 313:43, 313:45 and comment [7] - 296:19, 296:29 306:29 306:42 313:6 and comment [7] - 296:19, 296:29 306:29 306:29 306:42 313:42, 284:3 306:40 306:9,		· ·			
deck [4] - 297:26, dig [1] - 306:17 279:32, 290:9, drops [1] - 319:19 283:30, 283:31, 299:25, 305:28, dilution [1] - 318:47 293:3, 296:11, due [2] - 292:30, 324:6 294:15, 308:7, 305:31 directed [2] - 291:27, 299:24, 300:1, 329:44, 300:1, 321:9 311:40, 316:33, 291:21, 291:26, directly [3] - 286:35, 313:27, 313:35, 323:4, 323:18, 323:40, 324:4, 325:9 326:43 decreased [1] - 288:6 discovered [1] - 323:40, 324:4, 325:9 early [1] - 297:16 easier [1] - 293:19 easier [1] - 293:14	_				
299:25, 305:28, dilution [1] - 318:47 296:26, 298:27, 299:44, 300:1, 301:31 303:31 291:21, 291:26, directly [3] - 286:35, 319:34 323:40, 323:41, 323:18, 323:40, 324:45, 326:30 326:42 endeavour [1] - 306:17 definitively [1] - 306:17 definitively [1] - 307:9 departments [2] - 294:23, 301:15, departments [2] - 294:23, 301:15, describe [1] - 323:40 306:9, 309:42 describe [1] - 323:40 306:9, 309:42 describe [1] - 328:41 288:7 312:23 294:24, 320:24 described [3] - 323:24 380:7, 329:24, 320:27, 329:44, 320:9 discumental [1] - 306:17 described [3] - 307:9					
		•		•	
declaration [3] - 291:21, 291:26, 303:31 directly [3] - 286:35, 307:36 299:44, 300:1, 313:27, 313:35, 323:4, 323:18, 323:21, 323:34, 323:21, 323:34, 323:21, 323:34, 323:40, 324:4, 325:9 E endeavour [1] - 326:42 326:42 endeavour [1] - 326:42 428:11 - 294:1 290:29, 323:33 324:45, 326:30, 323:40, 324:4, 325:9 early [1] - 297:16 easier [1] - 297:16 endeavour [1] - 326:42 endeavour [1] - 326:42 ended [1] - 326:42 ended [1] - 328:11 294:1 ended [1] - 326:42 ended [1] - 326:42 ended [1] - 328:14 294:1 ended [1] - 328:14 ended [1] - 328:14 294:1 ended [1] - 328:14 <			· · · · · · · · · · · · · · · · · · ·		
291:21, 291:26, directly [3] - 286:35, 319:34				• • •	
Section Column Section Secti				321:9	
326:42 326:41 3		• • • • • • • • • • • • • • • • • • • •			
decreased [1] - 318:33 323:40, 324:4, 325:9 early [1] - 297:16 endeavouring [1] - 288:11 discuss [1] - 307:2 documentary [3] - easier [1] - 293:19 294:1 dedicated [1] - 316:37 discussed [6] - 324:38, 324:41, easier [1] - 293:19 ended [1] - 308:21 deeper [1] - 306:17 281:37, 281:38, documents [7] - easy [1] - 312:2 ended [1] - 308:21 defining [1] - 311:44 285:1, 285:8, documents [7] - defict [2] - 281:30, a32:20 a30:25 315:19 discussion [2] - 322:47, 324:46, effect [2] - 281:30, a32:20 a03:25 department [1] - discussions [8] - 325:1, 325:2, 325:6 effectively [1] - 298:43 entire [1] - 295:8 departments [2] - 294:23, 301:15, done [29] - 279:31, 286:27, 288:40, entitled [2] - 323:22, describe [1] - 323:40 306:9, 309:42 283:45, 286:2, element [1] - 299:5 element [1] - 299:5 enumerated [2] - DESCRIBED [1] - dissimilar [2] - 287:37, 291:9, 294:4, 294:12, 294:4, 294:12, 296:7, 297:5 described [3] -		•		E	
288:11 discuss[1] - 307:2 documentary[3] - 324:38, 324:41, assier [1] - 293:19 294:1 ended [1] - 308:21 easier [1] - 293:19 easier [1] - 293:19 ended [1] - 308:21 ended [1] - 308:45 ensure [2] - 301:11, 322:20 303:25 ensure [2] - 301:11, 322:20 303:25 ensures [1] - 313:42 entire [1] - 298:43 entire [1] - 298:43 entire [1] - 298:8 entire [1] - 299:8 entire [1] - 299:7 electronic [1] - 279:8 element [1] - 299:7 element [1] - 299:7 element [1] - 299:7 entire [1]	• • •			early (4) - 207:16	
dedicated [1] - 316:37 discussed [6] - 324:38, 324:41, 324:45 easy [1] - 312:2 ended [1] - 308:21 deeper [1] - 306:17 281:37, 281:38, 324:45 documents [7] - 280:4 engage [1] - 302:45 defining [1] - 311:44 285:1, 285:8, 329:2, 297:3, 315:19 discussion [2] - 322:47, 324:46, 325:1, 325:2, 325:6 effect [2] - 281:30, 322:20 303:25 demo [1] - 307:9 discussions [8] - 294:13, 305:35 discussions [8] - 279:42 discussions [8] - 279:42 294:23, 301:15, 423:14, 283:12, 283:41, 283:12, 283:45, 286:2, 295:43 elaborate [1] - 282:7 electronic [1] - 279:8 enumerated [2] - 296:7, 297:5 describe [1] - 323:40 306:9, 309:42 287:37, 291:9, 294:4, 294:12, 294:41, 284:3 email [47] - 293:47, 294:41, 284:3 294:29, 308:27, 294:41, 308:40, 310:43, 308:40, 310:43, 308:40, 310:43, 313:6			documentary [3] -		• • • • • • • • • • • • • • • • • • • •
deeper [1] - 306:17 281:37, 281:38, defining [1] - 311:44 324:45 EDMUND [1] - 280:4 ensure [2] - 301:11, 303:25 definitively [1] - 311:44 285:1, 285:8, 290:29, 323:33 322:47, 324:46, 325:1, 325:2, 325:6 effect [2] - 281:30, 303:25 a03:25 315:19 discussion [2] - 323:40 325:1, 325:2, 325:6 effectively [1] - 298:43 ensures [1] - 313:42 department [1] - 312:25 discussions [8] - 279:42 294:23, 301:15, 40se [29] - 279:31, 283:11, 283:12, 285:40, 285:41 292:4, 297:11, 324:1 40se [1] - 282:7 42 elaborate [1] - 282:7 42 electronic [1] - 279:8 42 enumerated [2] - 296:7, 297:5 42 described [1] - 323:40 306:9, 309:42 40se [1] - 312:22, 320:24 287:37, 291:9, 294:42, 294:12, 294:44, 294:12, 294:45, 294:41, 284:3 303:47 enumerated [1] - 302:45 ensure [2] - 301:11, 303:25 described [3] - 282:14 284:3 305:10, 306:8, 306:9, 309:42 294:29, 308:27, 306:9, 309:42 312:22, 320:24 287:52, 287:33, 287:33, 287:37, 291:9, 294:42, 294:12, 294:42, 294:12, 294:42, 294:12, 294:42, 294:12, 294:44, 294:12, 294:44, 294:12, 294:44, 294:12, 294:44, 294:12, 294:15, 294:41, 296:19 296:22 establishment [1] - 313:42 ensure [2] - 303:45			324:38, 324:41,		ended [1] - 308:21
defining [i] - 311:44 285:1, 285:8, 297:3, 303:25 documents [7] - 293:2, 297:3, 322:20 ensure [2] - 301:11, 303:25 315:19 discussion [2] - 294:13, 305:35 demo [i] - 307:9 294:13, 305:35 discussions [8] - 325:1, 325:2, 325:6 effectively [i] - 298:43 either [6] - 286:10, 286:27, 288:40, 292:4, 297:11, 324:1 entire [i] - 295:8 entitled [2] - 323:22, 323:2					engage [1] - 302:45
definitively [1] - 290:29, 323:33 293:2, 297:3, 322:46, 322:47, 324:46, 325:1, 325:2, 325:6 322:20 303:25 demo [1] - 307:9 294:13, 305:35 DOCUMENTS [1] - 298:43 either [6] - 286:10, 286:27, 288:40, 285:40, 285:41 entitled [2] - 323:22,	• • • •		documents [7] -		
315:19 discussion [2] - demo [1] - 307:9 294:13, 305:35 department [1] - discussions [8] - 312:25 294:23, 301:15, departments [2] - 304:9, 305:8, 285:40, 285:41 305:10, 306:8, describe [1] - 323:40 DESCRIBED [1] - 279:42 dissimilar [2] - 279:42 discribed [3] - 279:42 distributed [1] - 312:25, 320:24 described [3] - 282:14 284:3 303:47 303:47 302:47, 324:46, 325:1, 325:2, 325:6	_		293:2, 297:3,	,	
demo [1] - 307:9 294:13, 305:35 325:1, 325:2, 325:6 either [6] - 286:10, 286:27, 288:40, 286:27, 288:40, 292:4, 297:11, 324:1 entire [1] - 295:8 departments [2] - 304:9, 305:8, 285:40, 285:41 305:10, 306:8, 283:11, 283:12, 283:41, 283:12, 283:45, 286:2, 279:42 elaborate [1] - 282:7 electronic [1] - 279:8 element [1] - 299:5 envisaged [1] - 326:1 DESCRIBED [1] - 279:42 312:22, 320:24 described [3] - 312:22, 320:24 described [3] - 303:47 287:37, 291:9, 294:15, 294:12, 296:12, 296:12, 296:12, 296:12, 296:12, 313:6	• • •		322:47, 324:46,		ensures [1] - 313:42
department [1] - discussions [8] - 279:42 286:27, 288:40, entitled [2] - 323:22, 312:25 294:23, 301:15, done [29] - 279:31, 292:4, 297:11, 324:1 323:36 departments [2] - 304:9, 305:8, 283:11, 283:12, elaborate [1] - 282:7 enumerated [2] - 285:40, 285:41 305:10, 306:8, 283:45, 286:2, electronic [1] - 279:8 296:7, 297:5 describe [1] - 323:40 306:9, 309:42 287:5, 287:33, element [1] - 299:5 envisaged [1] - 326:1 DESCRIBED [1] - dissimilar [2] - 287:37, 291:9, 294:4, 294:12, 313:43, 313:45 described [3] - distributed [1] - 294:29, 308:27, 294:15, 294:41, establishment [1] - 282:14 284:3 303:47 308:40, 310:43, 296:19 296:22 313:6			325:1, 325:2, 325:6	-	entire [1] - 295:8
312:25 294:23, 301:15, departments [2] - 304:9, 305:8, 285:40, 285:41 305:10, 306:8, describe [1] - 323:40 306:9, 309:42 287:5, 287:33, 279:42 312:22, 320:24 described [3] - 312:22, 320:24 described [3] - 328:14 284:3 303:47 279:42 303:47 303:47 329:42 287:5, 287:33, 291:9, 294:29, 308:27, 308:40, 310:43, 308:40, 310:43, 313:6 279:42 313:6 323:36 enumerated [2] - 292:4, 297:11, 324:1 323:36 enumerated [2] - 296:7, 297:5 en			DOCUMENTS [1] -		entitled [2] - 323:22,
departments [2] - 285:40, 285:41 304:9, 305:8, 285:41, 283:12, 285:40, 285:41 done [29] - 279:31, 283:12, 283:11, 283:12, 283:11, 283:12, 283:11, 283:12, 283:14, 286:2, 287:5, 287:33, 287:33, 287:37, 291:9, 279:42 elaborate [1] - 282:7 electronic [1] - 279:8 electronic [1] - 279:8 envisaged [1] - 326:1 envisaged [1] - 32	•		279:42		323:36
285:40, 285:41 305:10, 306:8, 283:11, 283:12, 283:45, 286:2, 283:45, 286:2, 287:55, 287:33, 287:34, 287:42 312:22, 320:24 described [3] - distributed [1] - 282:14 284:3 303:47 286:11, 283:12, 283:11, 283:12, 283:14, 284:3 286:1, 283:14, 284:3 286:1, 283:14, 283:12, 283:14, 284:12, 283:14, 284:3 286:1, 283:14, 283:12, 283:14,					enumerated [2] -
describe [1] - 323:40 306:9, 309:42 283:45, 286:2, 287:53, 287:33, 287:33, 287:33, 287:37, 291:9, 294:4, 294:12, 282:14 284:3 element [1] - 299:5 email [47] - 293:47, 294:42, 294:12, 294:4, 294:12, 294:15, 294:41, 284:3 envisaged [1] - 326:1 equipment [2] - 313:43, 313:45 extablishment [1] - 326:1 equipment [2] - 326:1 equipm	•		283:11, 283:12,		296:7, 297:5
DESCRIBED[1] - dissimilar [2] - 287:5, 287:33, 287:33, 287:34, 287:37, 291:9, 287:37, 291:9, 294:4, 294:12, 282:14 284:3 email [47] - 293:47, 294:47, 294:12, 313:43, 313:45 294:29, 308:27, 308:40, 310:43, 308:47, 308:40, 310:43, 313:6					envisaged [1] - 326:18
279:42 312:22, 320:24 287:37, 291:9, 294:4, 294:12, 313:43, 313:45 45 46scribed [3] - distributed [1] - 308:40, 310:43, 308:47 308:40, 310:43, 296:19, 296:22 313:6					equipment [2] -
described [3] - distributed [1] - 282:14 284:3 303:47 294:29, 308:27, 308:40, 310:43, 296:19 296:22 294:15, 294:41, 296:19 296:22 313:6			· · ·		313:43, 313:45
282.14.284.3 303.47 308.40, 310.43, 296.19.296.22 313.6					establishment [1] -
	282:14, 284:3,			296:19, 296:22,	313:6
319:38 DLYS _[2] - 295:47 312:43, 313:19, 296:24, 299:35 estimation [1] -					estimation [1] -
description (1) - 296:2 314:7, 315:2, 315:5, 300:4 300:8 327:35					327:35
284-23 DNA (63) - 278-15 315:34, 316:2, 301:22 301:36 Et (1) - 316:39	•	DNA [63] - 278:15,		301:22, 301:36,	Et [1] - 316:39
detail [5] - 283:44, 280:23, 281:8, 317:15, 317:31, 301:39, 301:41, et [2] - 292:33	detail [5] - 283:44,	280:23, 281:8,	311.13, 311.31,	301:39, 301:41,	et [2] - 292:33

etc [1] - 307:23	317:3, 317:10,	292:30	focused [1] - 303:2	307:33, 308:29,
event [1] - 304:28	317:15, 322:32,	fair [1] - 297:34	focusing [1] - 280:34	308:45, 309:18,
events [1] - 305:3	323:3	fairly [1] - 297:9	follow [1] - 293:20	310:5, 310:15,
eventually [1] - 316:3	experiments [4] -	fairness [1] - 293:5	followed [1] - 301:45	310:19, 310:47,
evidence [27] - 279:4,	287:6, 291:10,	falls [1] - 292:8	following [3] - 293:30,	311:22, 312:10,
279:14, 279:39,	292:16, 305:47	far [4] - 307:28,	294:3, 308:35	312:15, 312:27,
285:12, 285:46,	expert [1] - 309:24	321:38, 321:43,	Following [1] - 292:11	313:30, 313:35,
287:5, 290:32,	experts [1] - 310:27	328:16	forceps/fire [1] -	320:29, 320:37,
290:35, 293:1,	explain [6] - 281:10,	favour [1] - 308:18	307:22	320:44, 321:4,
293:8, 298:29,	289:14, 289:28,	feedback [4] - 294:14,	Forensic [1] - 279:27	321:15, 323:11,
299:3, 303:15,	299:47, 304:5,	300:13, 302:18,	forensic [5] - 281:25,	324:26, 324:33,
303:38, 303:43,	319:25	302:20	283:2, 284:9, 292:41	326:12, 327:31,
309:16, 309:23,	explanation [5] -	felt [1] - 311:19	forgotten [2] - 291:7,	327:40, 328:1,
310:27, 311:5,	286:25, 286:26,	few [5] - 308:24,	322:3	328:8, 328:14,
311:7, 314:35,	288:23, 310:37,	309:20, 309:46,	form [4] - 300:33,	328:25
323:11, 323:24,	324:39	312:29, 314:32	318:39, 324:45,	fragment [1] - 306:44
323:30, 324:26,	extend [1] - 325:42	fewer [2] - 283:5,	326:1	frame [8] - 286:9,
324:44, 325:19	extent [2] - 294:43,	285:15	formal [2] - 291:33,	286:11, 286:27, 313:24, 313:26,
evidences [2] -	323:19	fiddly [1] - 295:44	291:36	313:32, 314:10,
309:23, 311:9	extra [1] - 328:22	figure [1] - 327:38	formally [1] - 279:35	315:1
evolved [1] - 299:25	extract [2] - 311:7,	figures [5] - 283:27,	format [3] - 309:44,	framework [1] -
exact [2] - 281:44, 290:27	316:29 extracted [4] - 292:30,	285:22, 287:39,	310:10, 310:42	327:38
exactly [3] - 306:12,	316:35, 319:3,	288:7, 288:8	former [4] - 280:2,	Friday [2] - 304:45,
316:18, 319:25	320:17	final [2] - 320:45,	280:4, 280:7, 292:39	306:27
examination [1] -	extracting [4] -	321:8	forming [1] - 314:7	FRIDAY [1] - 328:39
312:4	292:22, 292:28,	finalised [2] - 325:21, 326:42	forward [5] - 279:40, 298:27, 298:28,	front [4] - 307:8,
examine [2] - 278:15,	305:16, 305:47	findings [2] - 323:5,	304:24, 304:39	312:32, 312:40,
301:17	extraction [15] -	328:2	four [2] - 295:37,	313:27
example [2] - 300:10,	283:9, 290:42,	fingernails [3] -	311:2	FSQ.0001.0001.0403
314:11	306:4, 310:35,	295:43, 298:7,	Fox [16] - 278:34,	[1] - 323:35
excerpt [1] - 322:13	313:13, 315:2,	298:16	289:1, 291:18,	FTA [2] - 310:30,
excused [1] - 324:22	315:14, 316:40,	finish [4] - 318:19,	294:8, 295:21,	310:34
Executive [1] - 313:41	317:25, 317:26,	322:20, 322:31,	299:13, 304:32,	FTAs[1] - 310:33
exercises [2] - 307:43,	318:43, 319:38,	326:44	325:46, 326:6,	full [4] - 288:42, 305:2,
308:19	320:10, 320:21	finishing [1] - 327:29	326:9, 326:16,	322:15, 326:16
exhibit [3] - 289:7,	extractions [2] -	first [20] - 279:9,	326:19, 326:32,	fullness [1] - 308:17
291:20, 291:23	310:29, 317:24	279:44, 280:11,	326:43, 327:9,	fully [1] - 303:44
EXHIBIT [1] - 324:10	eye [1] - 305:14	280:29, 289:19,	327:27	funding [5] - 311:35,
exhibits [1] - 312:5		293:7, 296:12,	FOX [70] - 279:3,	311:40, 312:8,
expect [6] - 285:19,	F	296:27, 297:23,	279:16, 279:24,	312:18
309:45, 310:41,	face [3] - 319:46,	298:5, 298:13,	291:20, 291:42,	future [5] - 295:46,
325:21, 327:14,	321:46, 325:1	302:31, 302:36,	292:36, 293:15,	295:47, 299:23, 301:11, 313:43
327:33	facility [1] - 302:34	304:28, 305:15,	293:19, 293:25,	301.11, 313.43
expectation [2] -	fact [10] - 280:36,	306:32, 307:5, 308:6, 309:25,	294:33, 294:39, 295:10, 295:23,	G
311:47, 327:40 expected [2] - 285:25,	289:35, 294:42,	325:42	295:32, 296:6,	
291:38	295:2, 300:24,	firstly [3] - 279:25,	296:18, 296:24,	Gabriella [1] - 278:35
expecting [1] - 286:3	312:18, 314:6,	293:46, 310:23	296:47, 298:19,	gain [1] - 286:41
experienced [1] -	318:20, 325:2,	five [7] - 319:34,	298:26, 299:11,	gather [1] - 314:5
316:15	327:46	319:36, 320:31,	299:28, 299:43,	gathering [1] - 308:26
experiment [14] -	factor [1] - 325:5	320:40, 321:6,	300:7, 300:29,	generally [1] - 300:8
287:19, 292:15,	failed [10] - 280:24,	321:10, 322:17	300:42, 301:20,	George [1] - 278:22
314:35, 315:12,	280:45, 281:26,	five-minute [3] -	301:35, 302:22,	given [24] - 279:28,
315:22, 316:26,	281:32, 282:23,	320:40, 321:6,	302:28, 303:5,	279:30, 284:32,
316:30, 316:31,	283:18, 283:27,	321:10	303:17, 303:30,	285:16, 286:38,
316:39, 317:30,	284:10, 286:15	fix [1] - 326:33	304:2, 304:16,	292:14, 298:27,
318:46, 319:29,	failing [1] - 282:23	fixed [2] - 285:42,	304:37, 305:7,	300:25, 301:46,
319:35, 322:40	failure [4] - 280:38,	287:24	305:39, 306:7,	301:47, 302:18,
experimentation [5] -	282:32, 288:9,	flick [1] - 316:6	306:24, 307:15,	302:36, 303:39,

303:43, 305:12,	296:29, 299:37,	305:43, 306:15,	indicator [1] - 304:25	invitation [2] - 301:16,
306:7, 308:17,	300:4, 300:43,	320:23, 323:1	indicators [1] - 311:45	302:33
313:9, 313:19,	300:44, 305:15,	imagined [1] - 302:42	indistinct [1] - 279:13	invite [1] - 279:39
318:37, 322:46,	308:6	lman [1] - 294:41	inform [1] - 312:7	involve [1] - 310:36
324:6, 325:1, 325:39	highlighting [3] -	immediately [2] -	information [12] -	involved [4] - 283:14,
go-live [8] - 293:30,	301:23, 304:7,	303:34, 304:34	290:21, 294:14,	291:7, 305:36,
294:3, 298:14,	306:32	implement [1] - 292:1	300:39, 301:46,	311:43
303:35, 303:40,	hit [1] - 328:1	implementation [12] -	302:46, 303:34,	IQ [35] - 288:5, 288:19,
303:44, 303:45,	hmm [1] - 317:34	294:18, 302:32,	303:41, 303:42,	288:21, 292:19,
309:3	Holt [1] - 308:47	302:43, 303:19,	303:46, 312:7,	292:20, 299:24,
grateful [1] - 321:18	Hon [1] - 278:29	303:23, 303:40,	314:6, 323:33	300:15, 305:13,
greater [1] - 283:7	horrify [1] - 327:32	306:31, 309:21,	inhibitors [1] - 285:15	308:3, 309:7,
group [3] - 300:34,	horse [1] - 328:14	310:2, 310:8, 323:20	initial [3] - 294:12,	313:12, 315:4,
314:8, 314:28	hour [1] - 327:33	implemented [3] -	297:15, 309:32	316:36, 317:24,
Group [1] - 279:27	Howes [4] - 294:5,	300:17, 310:3,	Inquiry [7] - 278:14,	317:25, 317:31,
guess [5] - 282:15,	296:24, 302:30,	317:11	303:9, 317:21,	317:47, 318:19,
297:10, 306:17,	306:28	implementing [1] -	320:44, 323:1,	318:20, 318:23,
306:18, 316:17	huge [2] - 286:20,	311:34	324:42, 325:5	318:36, 318:37,
guys [1] - 304:18	286:21	implied [1] - 314:24	inquiry [1] - 317:17	318:43, 319:5,
Ц	- HUGHES [3] - 326:41,	important [1] - 311:19	INQUIRY [1] - 328:38	319:37, 320:13, 320:16, 320:18,
Н	327:24, 328:34	improve [1] - 294:18	Inspector [1] - 318:14	320:21, 321:29,
hairs [4] - 295:46,	•	inappropriate [1] - 311:12	instance [1] - 297:24	321:44, 322:9,
297:14, 297:18,	I	- inclination [1] -	instruments [1] - 314:29	322:25, 322:27,
298:15	idea [6] - 283:37,	328:15	insufficient [1] - 283:8	323:36
half [4] - 280:29,	290:10, 308:20,	include [1] - 297:24	integrity [1] - 314:1	irrespective[1] -
297:46, 298:4	308:22, 308:23,	included [7] - 296:43,	intention [2] - 318:37,	297:32
halfway [3] - 299:38,	327:28	297:27, 298:13,	326:6	issue [20] - 285:43,
300:44, 301:23	identical [1] - 285:37	298:17, 299:20,	interact [1] - 300:35	287:1, 287:24,
hand [4] - 286:39,	identified [1] - 300:20	303:45, 322:47	interaction [1] -	287:36, 289:6,
289:1, 294:39,	identify [2] - 300:11,	increase [14] - 280:36,	323:19	289:32, 290:28,
321:16	311:37	281:29, 282:23,	interactions [1] -	292:21, 292:23,
handwriting [1] -	identifying [2] -	283:18, 283:24,	300:34	292:27, 297:25,
296:29	317:11, 317:13	286:15, 286:20,	interested [1] - 308:36	315:10, 315:12,
hang [1] - 293:36	lentile [21] - 279:5,	286:21, 286:24,	interesting [1] -	315:13, 315:26,
happy [3] - 294:19,	281:36, 292:44,	286:27, 288:6,	308:37	315:29, 316:10,
300:47, 303:11	293:8, 293:26,	288:32, 290:22,	interpretation [2] -	316:21, 320:34, 321:19
hard [4] - 279:45,	293:46, 296:6,	316:11	286:12, 314:4	
287:7, 293:20,	299:35, 299:47,	increases [1] - 312:8	interpreted [2] -	issues [13] - 285:38, 290:38, 291:37,
311:13	304:3, 304:23,	indeed [1] - 279:16	284:45, 284:46	294:22, 294:26,
Harold [2] - 279:26, 280:11	304:38, 309:5, 309:22, 309:28,	indicate [9] - 279:7,	interpreting [1] -	296:40, 297:4,
head [1] - 306:13	310:19, 311:22,	294:46, 295:1,	282:41	300:12, 317:6,
headed [1] - 295:27	311:24, 312:29,	306:20, 310:1,	interrupt [2] - 293:11,	318:26, 324:38,
heads [1] - 288:42	313:23, 313:35	310:7, 311:17, 311:26, 320:10	304:32	327:45
Health [2] - 325:20,	IENTILE [24] - 280:2,	indicated [7] - 291:24,	interrupted [1] -	
327:19	294:8, 294:37,	309:11, 321:5,	287:31	J
hear [2] - 326:21	295:1, 295:21,	321:8, 324:27,	interview [1] - 279:9 intrigued [1] - 280:32	
heard [5] - 293:1,	295:25, 295:30,	324:30, 325:38	introduce [1] - 313:45	Jane [2] - 318:13,
323:40, 324:33,	296:10, 296:22,	indicates [10] -	introduction [1] -	322:11
327:35, 328:16	296:38, 300:4,	289:36, 292:47,	307:35	January [3] - 304:28,
hearing [1] - 324:42	300:10, 300:24,	294:21, 299:31,	inverted [1] - 280:37	316:31, 317:46
help [2] - 289:5, 313:9	300:32, 301:8,	300:25, 305:19,	investigate [1] -	job [1] - 311:18
helpful [3] - 281:35,	304:44, 310:25,	306:30, 310:40,	305:37	jotted [1] - 308:23
325:47, 327:26	311:29, 313:26,	311:20, 322:26	investigated [1] -	journalist [1] - 279:9
high [2] - 309:8, 328:2	313:32, 313:37,	indication [7] -	282:17	July [5] - 288:9,
high-volume [1] -	314:4, 314:14,	293:29, 293:31,	investigating [1] -	288:17, 314:39, 314:42, 317:47
309:8	314:20	294:2, 294:5,	318:22	314:42, 317:47
higher [1] - 285:14	images [1] - 282:13 imagine [5] - 305:12,	304:38, 321:18,	investigation [2] -	jump [3] - 288:1, 288:37, 292:29
highlighted [7] -	imayine [5] - 303.12,	325:13	287:37, 305:3	200.01, 202.20

June [2] - 314:37, last [13] - 287:5, 303:10, 303:21, management [11] -297:46, 298:3, 317:24 291:44, 292:1, 308:37, 308:38, 284:47, 285:7, 298:19, 298:24, jurisdictions [1] -295:41, 299:2, 316:31, 317:14, 295:4, 295:6, 298:31, 302:3, 317:39, 326:15, 302:7, 302:12, 295:17, 295:35, 313:44 301:24, 302:12, justify [2] - 311:39, 302:13, 304:16, 326:29 300:40, 301:16, 302:22, 302:26, looked [6] - 284:40, 306:32, 306:40, 302:30, 303:5, 312:7 305:33, 307:18, Justin [3] - 294:21, 307:19, 311:1 284:42, 285:9, 316:5 303:8, 303:25, 286:44, 318:42, 304:12, 304:14, manager [5] - 282:38, 307:3, 307:20 late [1] - 292:38 322:16 303:14, 311:19, 304:21, 304:32, launch [2] - 306:27, 306:31 looking [16] - 281:31, 312:20, 312:24 305:23, 305:28, K leaders [1] - 283:13 283:22, 288:6, managing [1] - 282:39 306:7, 306:12, 307:18, 307:39, **KATE** [1] - 280:2 leading [1] - 286:31 289:33, 292:18, manual [10] - 288:19, 308:4, 308:16, **keep** [3] - 298:3, 292:31, 292:32, least [4] - 285:9, 298:45, 305:17, 305:20, 305:26, 309:39, 310:7, 305:16, 311:39 293:42, 297:32, 292:43, 307:11, 297:33, 298:8, 311:3, 311:17, keeping [1] - 282:22 305:40, 306:4, 326:43 312:15, 312:17, KERSEY [1] - 280:4 301:38, 302:16, 314:36, 315:4, leave [1] - 304:29 315:7, 315:12, 303:8, 316:26, key [1] - 311:44 317:23 left [2] - 294:39, 315:17, 315:24, 321:11 mapped [1] - 312:6 Kieran [1] - 318:5 324:38 315:33, 316:13, looks [6] - 301:38, kind [6] - 284:3, 288:2, marked [4] - 281:29, left-hand [1] - 294:39 316:43, 317:2, 302:20, 307:11, 282:23, 283:18, 303:20, 303:33, legal [3] - 279:16, 317:34, 317:39, 308:23, 318:4, 319:40 313:19, 323:43 321:5, 321:15 317:45, 318:45, 319:28 kit [1] - 316:36 length [1] - 295:8 massive [1] - 311:5 lost [1] - 325:40 319:5, 319:13, material [8] - 324:37, knowing [2] - 286:41, lengthy [1] - 299:8 319:17, 319:22, low [3] - 286:17, 324:38, 324:41, 288:7 less [1] - 319:44 319:28. 319:33. knowledge [3] -286:19, 286:36 325:13, 327:15, level [3] - 300:40, 319:43, 320:6, 290:21, 301:13, LS [1] - 290:15 327:18, 327:20 301:12 320:12, 321:22, LS) [1] - 289:46 313:16 materials [1] - 292:18 levels [1] - 311:47 321:24, 321:33, luncheon [1] - 328:22 lid [1] - 298:44 matter [3] - 280:10, 321:38, 321:43, lunchtime [1] - 328:20 L 293:5, 324:27 lifts [6] - 297:23, 322:2, 322:9, lysate [1] - 306:3 matters [3] - 279:18. 297:24, 297:26, 322:39, 322:45 lab [11] - 287:6, lysates [1] - 305:47 289:27, 296:6 297:28, 298:14, McNevin's [2] - 321:5, 287:15. 292:40. lysed [1] - 316:35 McLEAN [3] - 324:17, 298:15 321:9 294:44, 298:41, **lysis** [8] - 296:4, 327:8, 328:32 limit [1] - 327:1 mean [10] - 281:9, 303:14, 311:11, 297:14, 297:17, McLEAN-WILLIAMS limited [2] - 292:15, 281:36, 283:5, 311:23, 312:21, 297:26, 299:26, [3] - 324:17, 327:8, 294:43 283:31, 283:46, 312:44, 317:13 305:28, 305:31, 328:32 **Lindon** [1] - 290:15 284:29, 293:36, lab-wide [1] - 287:15 310:36 McMenz [3] - 318:13, line [3] - 301:23, 308:41, 313:26, labelled [1] - 299:14 Lyza [4] - 318:13, 322:11 304:16. 309:40 327:6 laboratories [2] -McNevin [105] - 279:4, 322:11, 322:17 linked [2] - 290:20, meaning [1] - 311:10 313:19, 314:28 Lyza-Jane [2] -279:31, 280:7, 291:39 means [2] - 281:2, laboratory [25] -318:13, 322:11 280:15, 280:18, listed [2] - 295:17, 328:5 282:12, 282:18, 280:44, 281:38, 295:35 meant [3] - 285:14, 282:22, 282:35, 281:40, 281:46, M listen [1] - 294:19 314:42, 318:29 283:5, 283:6, 282:28, 283:21, literature [1] - 297:37 measuring [1] -284:26, 284:40, Magistrates [1] -283:33, 283:39, live [11] - 293:30, 285:24 278:21 284:43, 286:12, 283:41, 283:43, 294:3, 297:6, meeting [9] - 289:20, 286:29, 291:14, main [1] - 307:23 284:13, 284:19, 297:24, 298:14, 289:21, 289:30, 294:6, 303:13, maintaining [1] -284:29, 285:32, 303:35, 303:40, 289:33, 302:12, 304:47, 305:1, 286:47, 287:12, 313:47 303:44, 303:45, 302:13, 306:33, 311:36, 313:2, major [15] - 283:13, 287:17, 287:21, 309:3, 310:30 306:40, 316:5 316:2, 317:42, 287:36, 294:30, 287:28, 287:33, located [2] - 295:13, meetings [3] - 285:7, 321:28, 321:30, 296:15, 301:2, 288:42, 289:12, 295:34 295:4. 300:38 323:47, 324:1, 324:2 302:1, 302:19, 289:17, 289:25, log [1] - 294:22 member [1] - 311:43 laboratory's [1] -302:47, 303:28, 289:30, 289:35, look [23] - 280:36, memorandum [4] -282:3 290:4, 290:12, 309:14. 309:34. 284:32, 285:42, lack [3] - 294:6, 290:26, 291:1, 309:5, 309:13, 309:43, 310:9, 286:13, 286:22, 309:36, 309:37 303:33, 306:30 310:45 291:5, 291:16, 291:47, 294:10,

295:10 296:40

298:37, 299:43,

299:45, 302:34,

lady [1] - 318:12

large [3] - 283:23,

285:43, 310:42

majority [1] - 288:3

manage [1] - 306:41

managed [1] - 303:13

291:42, 291:44,

292:27, 292:45,

293:39, 293:45,

memory [1] - 312:38

mental [1] - 298:45

mentioned [8] -

286:47, 287:4,	293:1, 298:29,	279:45, 280:11,	308:29, 308:46,	288:19
299:1, 301:40,	298:32, 298:35,	281:9, 291:21,	309:3, 309:26,	occurred [5] - 304:35,
306:1, 312:30,	303:39, 303:43,	314:34, 318:14	309:29, 311:22,	306:2, 306:46,
322:10	306:1, 306:27,	Neville's [2] - 287:39,	312:10, 312:37,	310:37, 315:39
method [14] - 285:14,	307:39, 308:47,	291:5	317:20, 323:40	occurring [5] -
288:4, 292:32,	311:5	new [5] - 309:44,	NURTHEN [59] -	284:24, 284:25,
313:13, 313:17,	month [1] - 307:35	310:10, 318:33,	280:4, 280:13,	303:20, 315:39,
314:37, 314:43,	months [1] - 311:2	323:30, 323:32	280:47, 282:5,	316:1
315:7, 316:40,	morning [12] - 279:3,	next [12] - 294:40,	282:37, 283:1,	October [9] - 302:31,
316:41, 317:23,	291:6, 291:8,	295:15, 296:26,	283:11, 284:39,	306:26, 307:19,
318:24, 322:25,	292:19, 294:9,	299:28, 300:42,	285:6, 285:18,	309:20, 310:2,
322:28	298:37, 308:17,	302:29, 303:30,	286:1, 286:17,	310:3, 314:2,
methodology [1] -	314:35, 317:14,	304:2, 304:46,	286:31, 288:1,	317:21, 323:37
282:21		· · · · · · · · · · · · · · · · · · ·	288:17, 288:26,	•
	322:4, 322:16,	307:16, 307:33,		OF [1] - 328:38
methods [3] - 292:18,	325:43	309:46	288:35, 288:45,	off-deck [4] - 297:26,
298:45, 317:42	most [3] - 297:5,	no-one [3] - 293:36,	289:10, 290:32,	299:25, 305:28,
microlitre [1] - 319:11	297:43, 298:13	324:30, 327:18	290:38, 291:30,	305:31
microlitres [3] -	move [9] - 280:34,	nobody [1] - 282:25	296:4, 297:8, 298:1,	Officer [1] - 313:42
319:28, 319:33,	300:30, 302:28,	normal [1] - 316:7	298:7, 299:13,	officers [2] - 281:25,
319:36	303:30, 305:16,	normally [1] - 313:2	299:41, 301:33,	284:9
midnight [1] - 327:3	306:24, 307:16,	note [4] - 279:16,	301:38, 302:5,	offline [3] - 312:47,
might [20] - 280:9,	309:27, 311:6	300:42, 301:8,	302:9, 302:16,	313:4, 313:7
281:43, 285:29,	moved [4] - 290:14,	304:44	302:41, 303:38,	old [1] - 286:33
285:38, 289:2,	305:25, 305:28,	notes [1] - 316:4	305:12, 305:25,	omitted [1] - 306:46
291:47, 292:29,	305:40	nothing [1] - 310:17	305:30, 305:43,	once [3] - 298:43,
293:19, 295:2,	moving [1] - 309:25	notice [1] - 291:37	306:43, 308:34,	301:28, 318:21
297:41, 303:1,	Muharam [1] - 294:41		309:13, 309:32,	•
307:31, 308:32,	multiple [1] - 314:6	notification [3] -	310:17, 312:13,	one [29] - 280:9,
308:37, 309:3,	MultiPROBE [5] -	286:29, 291:33,	312:46, 313:15,	284:43, 287:7,
	• •	291:36	314:27, 314:39,	289:22, 291:11,
314:20, 320:31,	288:15, 288:18,	November [4] -		293:8, 293:19,
220.20 224.40	040 07 040 40		31 <i>4</i> ·46 315·4	
320:39, 321:18,	316:37, 316:40,	278:25, 279:28,	314:46, 315:4,	293:36, 294:25,
325:42	321:29	279:29, 307:34	315:38, 315:43,	296:19, 296:41,
325:42 mind [15] - 290:39,	321:29 must [4] - 282:2,	279:29, 307:34 NOVEMBER [1] -	315:38, 315:43, 316:1, 316:17,	296:19, 296:41, 298:46, 299:13,
325:42 mind [15] - 290:39, 291:32, 294:34,	321:29	279:29, 307:34	315:38, 315:43, 316:1, 316:17, 316:23, 317:28,	296:19, 296:41, 298:46, 299:13, 299:33, 301:47,
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34,	321:29 must [4] - 282:2,	279:29, 307:34 NOVEMBER [1] -	315:38, 315:43, 316:1, 316:17,	296:19, 296:41, 298:46, 299:13,
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24,	321:29 must [4] - 282:2, 283:4, 305:28, 324:45	279:29, 307:34 NOVEMBER [1] - 328:39	315:38, 315:43, 316:1, 316:17, 316:23, 317:28, 318:32, 323:46	296:19, 296:41, 298:46, 299:13, 299:33, 301:47,
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34,	321:29 must [4] - 282:2, 283:4, 305:28,	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7	315:38, 315:43, 316:1, 316:17, 316:23, 317:28,	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30,
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24,	321:29 must [4] - 282:2, 283:4, 305:28, 324:45	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7 number [18] - 286:24, 292:15, 294:34,	315:38, 315:43, 316:1, 316:17, 316:23, 317:28, 318:32, 323:46	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30, 305:15, 311:36,
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24, 321:4, 322:35,	321:29 must [4] - 282:2, 283:4, 305:28, 324:45	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7 number [18] - 286:24, 292:15, 294:34, 294:37, 295:6,	315:38, 315:43, 316:1, 316:17, 316:23, 317:28, 318:32, 323:46	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30, 305:15, 311:36, 313:16, 320:7,
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24, 321:4, 322:35, 324:31, 324:40,	321:29 must [4] - 282:2, 283:4, 305:28, 324:45	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7 number [18] - 286:24, 292:15, 294:34, - 294:37, 295:6, 301:43, 302:28,	315:38, 315:43, 316:1, 316:17, 316:23, 317:28, 318:32, 323:46 O o'clock [4] - 327:4, 327:29, 328:6	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30, 305:15, 311:36, 313:16, 320:7, 322:24, 323:6,
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24, 321:4, 322:35, 324:31, 324:40, 324:45, 325:7,	321:29 must [4] - 282:2, 283:4, 305:28, 324:45 N named [1] - 318:12	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7 number [18] - 286:24, 292:15, 294:34, 294:37, 295:6, 301:43, 302:28, 310:42, 311:33,	315:38, 315:43, 316:1, 316:17, 316:23, 317:28, 318:32, 323:46 O o'clock [4] - 327:4, 327:29, 328:6 oath [1] - 280:2	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30, 305:15, 311:36, 313:16, 320:7, 322:24, 323:6, 323:37, 324:30,
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24, 321:4, 322:35, 324:31, 324:40, 324:45, 325:7, 325:28, 326:32 mindset [1] - 299:7	321:29 must [4] - 282:2, 283:4, 305:28, 324:45 N named [1] - 318:12 names [1] - 291:27	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7 number [18] - 286:24, 292:15, 294:34, 294:37, 295:6, 301:43, 302:28, 310:42, 311:33, 312:2, 312:4,	315:38, 315:43, 316:1, 316:17, 316:23, 317:28, 318:32, 323:46 O o'clock [4] - 327:4, 327:29, 328:6	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30, 305:15, 311:36, 313:16, 320:7, 322:24, 323:6, 323:37, 324:30, 324:37, 327:18 ones [3] - 301:45,
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24, 321:4, 322:35, 324:31, 324:40, 324:45, 325:7, 325:28, 326:32 mindset [1] - 299:7 minimise [1] - 313:46	321:29 must [4] - 282:2, 283:4, 305:28, 324:45 N named [1] - 318:12 names [1] - 291:27 nanograms [1] - 319:10	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7 number [18] - 286:24, 292:15, 294:34, 294:37, 295:6, 301:43, 302:28, 310:42, 311:33, 312:2, 312:4, 318:46, 319:6,	315:38, 315:43, 316:1, 316:17, 316:23, 317:28, 318:32, 323:46 O o'clock [4] - 327:4, 327:29, 328:6 oath [1] - 280:2 objection [1] - 328:27 observation [4] -	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30, 305:15, 311:36, 313:16, 320:7, 322:24, 323:6, 323:37, 324:30, 324:37, 327:18 ones [3] - 301:45, 309:35, 317:43
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24, 321:4, 322:35, 324:31, 324:40, 324:45, 325:7, 325:28, 326:32 mindset [1] - 299:7	321:29 must [4] - 282:2, 283:4, 305:28, 324:45 N named [1] - 318:12 names [1] - 291:27 nanograms [1] - 319:10 naturally [1] - 306:13	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7 number [18] - 286:24, 292:15, 294:34, - 294:37, 295:6, 301:43, 302:28, 310:42, 311:33, 312:2, 312:4, 318:46, 319:6, 319:45, 320:6,	315:38, 315:43, 316:1, 316:17, 316:23, 317:28, 318:32, 323:46 O'clock [4] - 327:4, 327:29, 328:6 oath [1] - 280:2 objection [1] - 328:27	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30, 305:15, 311:36, 313:16, 320:7, 322:24, 323:6, 323:37, 324:30, 324:37, 327:18 ones [3] - 301:45, 309:35, 317:43 open [2] - 294:6,
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24, 321:4, 322:35, 324:31, 324:40, 324:45, 325:7, 325:28, 326:32 mindset [1] - 299:7 minimise [1] - 313:46 mining [2] - 307:42, 308:18	321:29 must [4] - 282:2, 283:4, 305:28, 324:45 N named [1] - 318:12 names [1] - 291:27 nanograms [1] - 319:10 naturally [1] - 306:13 nature [2] - 302:36,	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7 number [18] - 286:24, 292:15, 294:34, 294:37, 295:6, 301:43, 302:28, 310:42, 311:33, 312:2, 312:4, 318:46, 319:6, 319:45, 320:6, 320:23, 323:34,	315:38, 315:43, 316:1, 316:17, 316:23, 317:28, 318:32, 323:46 O o'clock [4] - 327:4, 327:29, 328:6 oath [1] - 280:2 objection [1] - 328:27 observation [4] -	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30, 305:15, 311:36, 313:16, 320:7, 322:24, 323:6, 323:37, 324:30, 324:37, 327:18 ones [3] - 301:45, 309:35, 317:43 open [2] - 294:6, 298:43
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24, 321:4, 322:35, 324:31, 324:40, 324:45, 325:7, 325:28, 326:32 mindset [1] - 299:7 minimise [1] - 313:46 mining [2] - 307:42, 308:18 ministerial [3] -	321:29 must [4] - 282:2, 283:4, 305:28, 324:45 N named [1] - 318:12 names [1] - 291:27 nanograms [1] - 319:10 naturally [1] - 306:13 nature [2] - 302:36, 323:18	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7 number [18] - 286:24, 292:15, 294:34, 294:37, 295:6, 301:43, 302:28, 310:42, 311:33, 312:2, 312:4, 318:46, 319:6, 319:45, 320:6, 320:23, 323:34, 324:7	315:38, 315:43, 316:1, 316:17, 316:23, 317:28, 318:32, 323:46 O o'clock [4] - 327:4, 327:29, 328:6 oath [1] - 280:2 objection [1] - 328:27 observation [4] - 286:29, 302:32,	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30, 305:15, 311:36, 313:16, 320:7, 322:24, 323:6, 323:37, 324:30, 324:37, 327:18 ones [3] - 301:45, 309:35, 317:43 open [2] - 294:6, 298:43 operating [1] - 307:12
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24, 321:4, 322:35, 324:31, 324:40, 324:45, 325:7, 325:28, 326:32 mindset [1] - 299:7 minimise [1] - 313:46 mining [2] - 307:42, 308:18 ministerial [3] - 311:32, 312:30,	321:29 must [4] - 282:2, 283:4, 305:28, 324:45 N named [1] - 318:12 names [1] - 291:27 nanograms [1] - 319:10 naturally [1] - 306:13 nature [2] - 302:36, 323:18 necessarily [5] -	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7 number [18] - 286:24, 292:15, 294:34, 294:37, 295:6, 301:43, 302:28, 310:42, 311:33, 312:2, 312:4, 318:46, 319:6, 319:45, 320:6, 320:23, 323:34, 324:7 numbering [2] -	315:38, 315:43, 316:1, 316:17, 316:23, 317:28, 318:32, 323:46 O o'clock [4] - 327:4, 327:29, 328:6 oath [1] - 280:2 objection [1] - 328:27 observation [4] - 286:29, 302:32, 303:18, 311:25	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30, 305:15, 311:36, 313:16, 320:7, 322:24, 323:6, 323:37, 324:30, 324:37, 327:18 ones [3] - 301:45, 309:35, 317:43 open [2] - 294:6, 298:43 operating [1] - 307:12 operationalised [1] -
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24, 321:4, 322:35, 324:31, 324:40, 324:45, 325:7, 325:28, 326:32 mindset [1] - 299:7 minimise [1] - 313:46 mining [2] - 307:42, 308:18 ministerial [3] - 311:32, 312:30, 314:24	321:29 must [4] - 282:2, 283:4, 305:28, 324:45 N named [1] - 318:12 names [1] - 291:27 nanograms [1] - 319:10 naturally [1] - 306:13 nature [2] - 302:36, 323:18 necessarily [5] - 281:1, 282:34,	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7 number [18] - 286:24, 292:15, 294:34, 294:37, 295:6, 301:43, 302:28, 310:42, 311:33, 312:2, 312:4, 318:46, 319:6, 319:45, 320:6, 320:23, 323:34, 324:7 numbering [2] - 294:39, 324:8	315:38, 315:43, 316:1, 316:17, 316:23, 317:28, 318:32, 323:46 O o'clock [4] - 327:4, 327:29, 328:6 oath [1] - 280:2 objection [1] - 328:27 observation [4] - 286:29, 302:32, 303:18, 311:25 observations [3] -	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30, 305:15, 311:36, 313:16, 320:7, 322:24, 323:6, 323:37, 324:30, 324:37, 327:18 ones [3] - 301:45, 309:35, 317:43 open [2] - 294:6, 298:43 operating [1] - 307:12 operationalised [1] - 294:45
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24, 321:4, 322:35, 324:31, 324:40, 324:45, 325:7, 325:28, 326:32 mindset [1] - 299:7 minimise [1] - 313:46 mining [2] - 307:42, 308:18 ministerial [3] - 311:32, 312:30, 314:24 minor [1] - 317:23	321:29 must [4] - 282:2, 283:4, 305:28, 324:45 N named [1] - 318:12 names [1] - 291:27 nanograms [1] - 319:10 naturally [1] - 306:13 nature [2] - 302:36, 323:18 necessarily [5] - 281:1, 282:34, 284:5, 303:27,	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7 number [18] - 286:24, 292:15, 294:34, 294:37, 295:6, 301:43, 302:28, 310:42, 311:33, 312:2, 312:4, 318:46, 319:6, 319:45, 320:6, 320:23, 323:34, 324:7 numbering [2] - 294:39, 324:8 numbers [5] - 281:34,	315:38, 315:43, 316:1, 316:17, 316:23, 317:28, 318:32, 323:46 O'clock [4] - 327:4, 327:29, 328:6 oath [1] - 280:2 objection [1] - 328:27 observation [4] - 286:29, 302:32, 303:18, 311:25 observations [3] - 293:6, 298:26, 303:6 observe [1] - 303:12	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30, 305:15, 311:36, 313:16, 320:7, 322:24, 323:6, 323:37, 324:30, 324:37, 327:18 ones [3] - 301:45, 309:35, 317:43 open [2] - 294:6, 298:43 operationg [1] - 307:12 operationalised [1] - 294:45 operations [1] -
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24, 321:4, 322:35, 324:31, 324:40, 324:45, 325:7, 325:28, 326:32 mindset [1] - 299:7 minimise [1] - 313:46 mining [2] - 307:42, 308:18 ministerial [3] - 311:32, 312:30, 314:24 minor [1] - 317:23 minute [3] - 320:40,	321:29 must [4] - 282:2, 283:4, 305:28, 324:45 N named [1] - 318:12 names [1] - 291:27 nanograms [1] - 319:10 naturally [1] - 306:13 nature [2] - 302:36, 323:18 necessarily [5] - 281:1, 282:34, 284:5, 303:27, 303:39	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7 number [18] - 286:24, 292:15, 294:34, 294:37, 295:6, 301:43, 302:28, 310:42, 311:33, 312:2, 312:4, 318:46, 319:6, 319:45, 320:6, 320:23, 323:34, 324:7 numbering [2] - 294:39, 324:8 numbers [5] - 281:34, 282:46, 284:34,	315:38, 315:43, 316:1, 316:17, 316:23, 317:28, 318:32, 323:46 O'clock [4] - 327:4, 327:29, 328:6 oath [1] - 280:2 objection [1] - 328:27 observation [4] - 286:29, 302:32, 303:18, 311:25 observations [3] - 293:6, 298:26, 303:6 observe [1] - 303:12 observed [1] - 320:17	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30, 305:15, 311:36, 313:16, 320:7, 322:24, 323:6, 323:37, 324:30, 324:37, 327:18 ones [3] - 301:45, 309:35, 317:43 open [2] - 294:6, 298:43 operating [1] - 307:12 operationalised [1] - 294:45 operations [1] - 311:11
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24, 321:4, 322:35, 324:31, 324:40, 324:45, 325:7, 325:28, 326:32 mindset [1] - 299:7 minimise [1] - 313:46 mining [2] - 307:42, 308:18 ministerial [3] - 311:32, 312:30, 314:24 minor [1] - 317:23 minute [3] - 320:40, 321:6, 321:10	321:29 must [4] - 282:2, 283:4, 305:28, 324:45 N named [1] - 318:12 names [1] - 291:27 nanograms [1] - 319:10 naturally [1] - 306:13 nature [2] - 302:36, 323:18 necessarily [5] - 281:1, 282:34, 284:5, 303:27, 303:39 need [8] - 279:19,	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7 number [18] - 286:24, 292:15, 294:34, 294:37, 295:6, 301:43, 302:28, 310:42, 311:33, 312:2, 312:4, 318:46, 319:6, 319:45, 320:6, 320:23, 323:34, 324:7 numbering [2] - 294:39, 324:8 numbers [5] - 281:34, 282:46, 284:34, 311:30, 311:31	315:38, 315:43, 316:1, 316:17, 316:23, 317:28, 318:32, 323:46 O'clock [4] - 327:4, 327:29, 328:6 oath [1] - 280:2 objection [1] - 328:27 observation [4] - 286:29, 302:32, 303:18, 311:25 observations [3] - 293:6, 298:26, 303:6 observe [1] - 303:12 observed [1] - 320:17 obtained [1] - 281:9	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30, 305:15, 311:36, 313:16, 320:7, 322:24, 323:6, 323:37, 324:30, 324:37, 327:18 ones [3] - 301:45, 309:35, 317:43 open [2] - 294:6, 298:43 operationg [1] - 307:12 operationalised [1] - 294:45 operations [1] - 311:11 opinion [1] - 283:26
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24, 321:4, 322:35, 324:31, 324:40, 324:45, 325:7, 325:28, 326:32 mindset [1] - 299:7 minimise [1] - 313:46 mining [2] - 307:42, 308:18 ministerial [3] - 311:32, 312:30, 314:24 minor [1] - 317:23 minute [3] - 320:40, 321:6, 321:10 minutes [3] - 289:20,	321:29 must [4] - 282:2, 283:4, 305:28, 324:45 N named [1] - 318:12 names [1] - 291:27 nanograms [1] - 319:10 naturally [1] - 306:13 nature [2] - 302:36, 323:18 necessarily [5] - 281:1, 282:34, 284:5, 303:27, 303:39 need [8] - 279:19, 285:32, 304:18,	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7 number [18] - 286:24, 292:15, 294:34, 294:37, 295:6, 301:43, 302:28, 310:42, 311:33, 312:2, 312:4, 318:46, 319:6, 319:45, 320:6, 320:23, 323:34, 324:7 numbering [2] - 294:39, 324:8 numbers [5] - 281:34, 282:46, 284:34, 311:30, 311:31 numerous [1] - 281:24	315:38, 315:43, 316:1, 316:17, 316:23, 317:28, 318:32, 323:46 O'clock [4] - 327:4, 327:29, 328:6 oath [1] - 280:2 objection [1] - 328:27 observation [4] - 286:29, 302:32, 303:18, 311:25 observations [3] - 293:6, 298:26, 303:6 observe [1] - 303:12 observed [1] - 320:17 obtained [1] - 281:9 obtaining [1] - 313:8	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30, 305:15, 311:36, 313:16, 320:7, 322:24, 323:6, 323:37, 324:30, 324:37, 327:18 ones [3] - 301:45, 309:35, 317:43 open [2] - 294:6, 298:43 operationg [1] - 307:12 operationalised [1] - 294:45 operations [1] - 311:11 opinion [1] - 283:26 opportunity [3] -
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24, 321:4, 322:35, 324:31, 324:40, 324:45, 325:7, 325:28, 326:32 mindset [1] - 299:7 minimise [1] - 313:46 mining [2] - 307:42, 308:18 ministerial [3] - 311:32, 312:30, 314:24 minor [1] - 317:23 minute [3] - 320:40, 321:6, 321:10 minutes [3] - 289:20, 289:21, 320:31	321:29 must [4] - 282:2, 283:4, 305:28, 324:45 N named [1] - 318:12 names [1] - 291:27 nanograms [1] - 319:10 naturally [1] - 306:13 nature [2] - 302:36, 323:18 necessarily [5] - 281:1, 282:34, 284:5, 303:27, 303:39 need [8] - 279:19, 285:32, 304:18, 311:6, 324:36,	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7 number [18] - 286:24, 292:15, 294:34, 294:37, 295:6, 301:43, 302:28, 310:42, 311:33, 312:2, 312:4, 318:46, 319:6, 319:45, 320:6, 320:23, 323:34, 324:7 numbering [2] - 294:39, 324:8 numbers [5] - 281:34, 282:46, 284:34, 311:30, 311:31 numerous [1] - 281:24 Nurthen [27] - 279:4,	315:38, 315:43, 316:1, 316:17, 316:23, 317:28, 318:32, 323:46 O'clock [4] - 327:4, 327:29, 328:6 oath [1] - 280:2 objection [1] - 328:27 observation [4] - 286:29, 302:32, 303:18, 311:25 observations [3] - 293:6, 298:26, 303:6 observe [1] - 303:12 observed [1] - 320:17 obtained [1] - 281:9 obtaining [1] - 313:8 obvious [2] - 284:1,	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30, 305:15, 311:36, 313:16, 320:7, 322:24, 323:6, 323:37, 324:30, 324:37, 327:18 ones [3] - 301:45, 309:35, 317:43 open [2] - 294:6, 298:43 operationg [1] - 307:12 operationalised [1] - 294:45 operations [1] - 311:11 opinion [1] - 283:26 opportunity [3] - 293:6, 294:9, 328:21
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24, 321:4, 322:35, 324:31, 324:40, 324:45, 325:7, 325:28, 326:32 mindset [1] - 299:7 minimise [1] - 313:46 mining [2] - 307:42, 308:18 ministerial [3] - 311:32, 312:30, 314:24 minor [1] - 317:23 minute [3] - 320:40, 321:6, 321:10 minutes [3] - 289:20, 289:21, 320:31 mix [1] - 283:23	321:29 must [4] - 282:2, 283:4, 305:28, 324:45 N named [1] - 318:12 names [1] - 291:27 nanograms [1] - 319:10 naturally [1] - 306:13 nature [2] - 302:36, 323:18 necessarily [5] - 281:1, 282:34, 284:5, 303:27, 303:39 need [8] - 279:19, 285:32, 304:18, 311:6, 324:36, 325:28, 326:22,	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7 number [18] - 286:24, 292:15, 294:34, 294:37, 295:6, 301:43, 302:28, 310:42, 311:33, 312:2, 312:4, 318:46, 319:6, 319:45, 320:6, 320:23, 323:34, 324:7 numbering [2] - 294:39, 324:8 numbers [5] - 281:34, 282:46, 284:34, 311:30, 311:31 numerous [1] - 281:24 Nurthen [27] - 279:4, 279:30, 280:17,	315:38, 315:43, 316:1, 316:17, 316:23, 317:28, 318:32, 323:46 O'clock [4] - 327:4, 327:29, 328:6 oath [1] - 280:2 objection [1] - 328:27 observation [4] - 286:29, 302:32, 303:18, 311:25 observations [3] - 293:6, 298:26, 303:6 observe [1] - 303:12 observed [1] - 320:17 obtained [1] - 281:9 obtaining [1] - 313:8 obvious [2] - 284:1, 304:34	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30, 305:15, 311:36, 313:16, 320:7, 322:24, 323:6, 323:37, 324:30, 324:37, 327:18 ones [3] - 301:45, 309:35, 317:43 open [2] - 294:6, 298:43 operation [1] - 307:12 operationalised [1] - 294:45 operations [1] - 311:11 opinion [1] - 283:26 opportunity [3] - 293:6, 294:9, 328:21 opposed [1] - 297:43
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24, 321:4, 322:35, 324:31, 324:40, 324:45, 325:7, 325:28, 326:32 mindset [1] - 299:7 minimise [1] - 313:46 mining [2] - 307:42, 308:18 ministerial [3] - 311:32, 312:30, 314:24 minor [1] - 317:23 minute [3] - 320:40, 321:6, 321:10 minutes [3] - 289:20, 289:21, 320:31 mix [1] - 283:23 mmm-hmm [1] -	321:29 must [4] - 282:2, 283:4, 305:28, 324:45 N named [1] - 318:12 names [1] - 291:27 nanograms [1] - 319:10 naturally [1] - 306:13 nature [2] - 302:36, 323:18 necessarily [5] - 281:1, 282:34, 284:5, 303:27, 303:39 need [8] - 279:19, 285:32, 304:18, 311:6, 324:36, 325:28, 326:22, 327:45	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7 number [18] - 286:24, 292:15, 294:34, 294:37, 295:6, 301:43, 302:28, 310:42, 311:33, 312:2, 312:4, 318:46, 319:6, 319:45, 320:6, 320:23, 323:34, 324:7 numbering [2] - 294:39, 324:8 numbers [5] - 281:34, 282:46, 284:34, 311:30, 311:31 numerous [1] - 281:24 Nurthen [27] - 279:4,	315:38, 315:43, 316:17, 316:23, 317:28, 318:32, 323:46 O'clock [4] - 327:4, 327:29, 328:6 oath [1] - 280:2 objection [1] - 328:27 observation [4] - 286:29, 302:32, 303:18, 311:25 observations [3] - 293:6, 298:26, 303:6 observe [1] - 303:12 observed [1] - 320:17 obtained [1] - 281:9 obtaining [1] - 313:8 obvious [2] - 284:1, 304:34 obviously [12] - 282:1,	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30, 305:15, 311:36, 313:16, 320:7, 322:24, 323:6, 323:37, 324:30, 324:37, 327:18 ones [3] - 301:45, 309:35, 317:43 open [2] - 294:6, 298:43 operationg [1] - 307:12 operationalised [1] - 294:45 operations [1] - 311:11 opinion [1] - 283:26 opportunity [3] - 293:6, 294:9, 328:21
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24, 321:4, 322:35, 324:31, 324:40, 324:45, 325:7, 325:28, 326:32 mindset [1] - 299:7 minimise [1] - 313:46 mining [2] - 307:42, 308:18 ministerial [3] - 311:32, 312:30, 314:24 minor [1] - 317:23 minute [3] - 320:40, 321:6, 321:10 minutes [3] - 289:20, 289:21, 320:31 mix [1] - 283:23 mmm-hmm [1] - 317:34	321:29 must [4] - 282:2, 283:4, 305:28, 324:45 N named [1] - 318:12 names [1] - 291:27 nanograms [1] - 319:10 naturally [1] - 306:13 nature [2] - 302:36, 323:18 necessarily [5] - 281:1, 282:34, 284:5, 303:27, 303:39 need [8] - 279:19, 285:32, 304:18, 311:6, 324:36, 325:28, 326:22, 327:45 needed [1] - 311:38	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7 number [18] - 286:24, 292:15, 294:34, 294:37, 295:6, 301:43, 302:28, 310:42, 311:33, 312:2, 312:4, 318:46, 319:6, 319:45, 320:6, 320:23, 323:34, 324:7 numbering [2] - 294:39, 324:8 numbers [5] - 281:34, 282:46, 284:34, 311:30, 311:31 numerous [1] - 281:24 Nurthen [27] - 279:4, 279:30, 280:17,	315:38, 315:43, 316:17, 316:23, 317:28, 318:32, 323:46 O'clock [4] - 327:4, 327:29, 328:6 oath [1] - 280:2 objection [1] - 328:27 observation [4] - 286:29, 302:32, 303:18, 311:25 observations [3] - 293:6, 298:26, 303:6 observe [1] - 303:12 observed [1] - 320:17 obtained [1] - 281:9 obtaining [1] - 313:8 obvious [2] - 284:1, 304:34 obviously [12] - 282:1, 289:30, 291:23,	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30, 305:15, 311:36, 313:16, 320:7, 322:24, 323:6, 323:37, 324:30, 324:37, 327:18 ones [3] - 301:45, 309:35, 317:43 open [2] - 294:6, 298:43 operation [1] - 307:12 operationalised [1] - 294:45 operations [1] - 311:11 opinion [1] - 283:26 opportunity [3] - 293:6, 294:9, 328:21 opposed [1] - 297:43
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24, 321:4, 322:35, 324:31, 324:40, 324:45, 325:7, 325:28, 326:32 mindset [1] - 299:7 minimise [1] - 313:46 mining [2] - 307:42, 308:18 ministerial [3] - 311:32, 312:30, 314:24 minor [1] - 317:23 minute [3] - 320:40, 321:6, 321:10 minutes [3] - 289:20, 289:21, 320:31 mix [1] - 283:23 mmm-hmm [1] -	321:29 must [4] - 282:2, 283:4, 305:28, 324:45 N named [1] - 318:12 names [1] - 291:27 nanograms [1] - 319:10 naturally [1] - 306:13 nature [2] - 302:36, 323:18 necessarily [5] - 281:1, 282:34, 284:5, 303:27, 303:39 need [8] - 279:19, 285:32, 304:18, 311:6, 324:36, 325:28, 326:22, 327:45	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7 number [18] - 286:24, 292:15, 294:34, 294:37, 295:6, 301:43, 302:28, 310:42, 311:33, 312:2, 312:4, 318:46, 319:6, 319:45, 320:6, 320:23, 323:34, 324:7 numbering [2] - 294:39, 324:8 numbers [5] - 281:34, 282:46, 284:34, 311:30, 311:31 numerous [1] - 281:24 Nurthen [27] - 279:4, 279:30, 280:17, 280:44, 291:22,	315:38, 315:43, 316:17, 316:23, 317:28, 318:32, 323:46 O'clock [4] - 327:4, 327:29, 328:6 oath [1] - 280:2 objection [1] - 328:27 observation [4] - 286:29, 302:32, 303:18, 311:25 observations [3] - 293:6, 298:26, 303:6 observe [1] - 303:12 observed [1] - 320:17 obtained [1] - 281:9 obtaining [1] - 313:8 obvious [2] - 284:1, 304:34 obviously [12] - 282:1, 289:30, 291:23, 297:13, 297:14,	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30, 305:15, 311:36, 313:16, 320:7, 322:24, 323:6, 323:37, 324:30, 324:37, 327:18 ones [3] - 301:45, 309:35, 317:43 open [2] - 294:6, 298:43 operations [1] - 307:12 operations [1] - 311:11 opinion [1] - 283:26 opportunity [3] - 293:6, 294:9, 328:21 opposed [1] - 297:43 oral [2] - 324:31,
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24, 321:4, 322:35, 324:31, 324:40, 324:45, 325:7, 325:28, 326:32 mindset [1] - 299:7 minimise [1] - 313:46 mining [2] - 307:42, 308:18 ministerial [3] - 311:32, 312:30, 314:24 minor [1] - 317:23 minute [3] - 320:40, 321:6, 321:10 minutes [3] - 289:20, 289:21, 320:31 mix [1] - 283:23 mmm-hmm [1] - 317:34	321:29 must [4] - 282:2, 283:4, 305:28, 324:45 N named [1] - 318:12 names [1] - 291:27 nanograms [1] - 319:10 naturally [1] - 306:13 nature [2] - 302:36, 323:18 necessarily [5] - 281:1, 282:34, 284:5, 303:27, 303:39 need [8] - 279:19, 285:32, 304:18, 311:6, 324:36, 325:28, 326:22, 327:45 needed [1] - 311:38	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7 number [18] - 286:24, 292:15, 294:34, 294:37, 295:6, 301:43, 302:28, 310:42, 311:33, 312:2, 312:4, 318:46, 319:6, 319:45, 320:6, 320:23, 323:34, 324:7 numbering [2] - 294:39, 324:8 numbers [5] - 281:34, 282:46, 284:34, 311:30, 311:31 numerous [1] - 281:24 Nurthen [27] - 279:4, 279:30, 280:17, 280:44, 291:22, 291:28, 292:44,	315:38, 315:43, 316:17, 316:23, 317:28, 318:32, 323:46 O'clock [4] - 327:4, 327:29, 328:6 oath [1] - 280:2 objection [1] - 328:27 observation [4] - 286:29, 302:32, 303:18, 311:25 observations [3] - 293:6, 298:26, 303:6 observe [1] - 303:12 observed [1] - 320:17 obtained [1] - 281:9 obtaining [1] - 313:8 obvious [2] - 284:1, 304:34 obviously [12] - 282:1, 289:30, 291:23, 297:13, 297:14, 299:17, 301:47,	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30, 305:15, 311:36, 313:16, 320:7, 322:24, 323:6, 323:37, 324:30, 324:37, 327:18 ones [3] - 301:45, 309:35, 317:43 open [2] - 294:6, 298:43 operations [1] - 294:45 operations [1] - 311:11 opinion [1] - 283:26 opportunity [3] - 293:6, 294:9, 328:21 opposed [1] - 297:43 oral [2] - 324:31, 324:44
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24, 321:4, 322:35, 324:31, 324:40, 324:45, 325:7, 325:28, 326:32 mindset [1] - 299:7 minimise [1] - 313:46 mining [2] - 307:42, 308:18 ministerial [3] - 311:32, 312:30, 314:24 minor [1] - 317:23 minute [3] - 320:40, 321:6, 321:10 minutes [3] - 289:20, 289:21, 320:31 mix [1] - 283:23 mmm-hmm [1] - 317:34 modification [1] -	321:29 must [4] - 282:2, 283:4, 305:28, 324:45 N named [1] - 318:12 names [1] - 291:27 nanograms [1] - 319:10 naturally [1] - 306:13 nature [2] - 302:36, 323:18 necessarily [5] - 281:1, 282:34, 284:5, 303:27, 303:39 need [8] - 279:19, 285:32, 304:18, 311:6, 324:36, 325:28, 326:22, 327:45 needed [1] - 311:38 needs [2] - 321:15,	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7 number [18] - 286:24, 292:15, 294:34, 294:37, 295:6, 301:43, 302:28, 310:42, 311:33, 312:2, 312:4, 318:46, 319:6, 319:45, 320:6, 320:23, 323:34, 324:7 numbering [2] - 294:39, 324:8 numbers [5] - 281:34, 282:46, 284:34, 311:30, 311:31 numerous [1] - 281:24 Nurthen [27] - 279:4, 279:30, 280:17, 280:44, 291:22, 291:28, 292:44, 297:2, 299:39,	315:38, 315:43, 316:17, 316:23, 317:28, 318:32, 323:46 O'clock [4] - 327:4, 327:29, 328:6 oath [1] - 280:2 objection [1] - 328:27 observation [4] - 286:29, 302:32, 303:18, 311:25 observations [3] - 293:6, 298:26, 303:6 observe [1] - 303:12 observed [1] - 320:17 obtained [1] - 281:9 obtaining [1] - 313:8 obvious [2] - 284:1, 304:34 obviously [12] - 282:1, 289:30, 291:23, 297:13, 297:14, 299:17, 301:47, 302:14, 303:11,	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30, 305:15, 311:36, 313:16, 320:7, 322:24, 323:6, 323:37, 324:30, 324:37, 327:18 ones [3] - 301:45, 309:35, 317:43 open [2] - 294:6, 298:43 operations [1] - 307:12 operationalised [1] - 294:45 operations [1] - 311:11 opinion [1] - 283:26 opportunity [3] - 293:6, 294:9, 328:21 opposed [1] - 297:43 oral [2] - 324:31, 324:44 orally [1] - 328:17 order [1] - 326:2
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24, 321:4, 322:35, 324:31, 324:40, 324:45, 325:7, 325:28, 326:32 mindset [1] - 299:7 minimise [1] - 313:46 mining [2] - 307:42, 308:18 ministerial [3] - 311:32, 312:30, 314:24 minor [1] - 317:23 minute [3] - 320:40, 321:6, 321:10 minutes [3] - 289:20, 289:21, 320:31 mix [1] - 283:23 mmm-hmm [1] - 317:34 modification [1] - 279:20	321:29 must [4] - 282:2, 283:4, 305:28, 324:45 N named [1] - 318:12 names [1] - 291:27 nanograms [1] - 319:10 naturally [1] - 306:13 nature [2] - 302:36, 323:18 necessarily [5] - 281:1, 282:34, 284:5, 303:27, 303:39 need [8] - 279:19, 285:32, 304:18, 311:6, 324:36, 325:28, 326:22, 327:45 needed [1] - 311:38 needs [2] - 321:15, 324:7	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7 number [18] - 286:24, 292:15, 294:34, 294:37, 295:6, 301:43, 302:28, 310:42, 311:33, 312:2, 312:4, 318:46, 319:6, 319:45, 320:6, 320:23, 323:34, 324:7 numbering [2] - 294:39, 324:8 numbers [5] - 281:34, 282:46, 284:34, 311:30, 311:31 numerous [1] - 281:24 Nurthen [27] - 279:4, 279:30, 280:17, 280:44, 291:22, 291:28, 292:44, 297:2, 299:39, 300:30, 301:22,	315:38, 315:43, 316:17, 316:23, 317:28, 318:32, 323:46 O'clock [4] - 327:4, 327:29, 328:6 oath [1] - 280:2 objection [1] - 328:27 observation [4] - 286:29, 302:32, 303:18, 311:25 observations [3] - 293:6, 298:26, 303:16 observed [1] - 303:12 observed [1] - 303:12 observed [1] - 313:8 obvious [2] - 284:1, 304:34 obviously [12] - 282:1, 289:30, 291:23, 297:13, 297:14, 299:17, 301:47, 302:14, 303:11, 308:41, 312:1, 313:3	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30, 305:15, 311:36, 313:16, 320:7, 322:24, 323:6, 323:37, 324:30, 324:37, 327:18 ones [3] - 301:45, 309:35, 317:43 open [2] - 294:6, 298:43 operations [1] - 307:12 operationalised [1] - 294:45 operations [1] - 311:11 opinion [1] - 283:26 opportunity [3] - 293:6, 294:9, 328:21 opposed [1] - 297:43 oral [2] - 324:31, 324:44 orally [1] - 328:17 order [1] - 326:2 ordinarily [1] - 303:46
325:42 mind [15] - 290:39, 291:32, 294:34, 298:33, 298:34, 308:13, 313:24, 321:4, 322:35, 324:31, 324:40, 324:45, 325:7, 325:28, 326:32 mindset [1] - 299:7 minimise [1] - 313:46 mining [2] - 307:42, 308:18 ministerial [3] - 311:32, 312:30, 314:24 minor [1] - 317:23 minute [3] - 320:40, 321:6, 321:10 minutes [3] - 289:20, 289:21, 320:31 mix [1] - 283:23 mmm-hmm [1] - 317:34 modification [1] - 279:20 moment [3] - 310:31,	321:29 must [4] - 282:2, 283:4, 305:28, 324:45 N named [1] - 318:12 names [1] - 291:27 nanograms [1] - 319:10 naturally [1] - 306:13 nature [2] - 302:36, 323:18 necessarily [5] - 281:1, 282:34, 284:5, 303:27, 303:39 need [8] - 279:19, 285:32, 304:18, 311:6, 324:36, 325:28, 326:22, 327:45 needed [1] - 311:38 needs [2] - 321:15, 324:7 never [2] - 288:28,	279:29, 307:34 NOVEMBER [1] - 328:39 nuclear [1] - 315:7 number [18] - 286:24, 292:15, 294:34, 294:37, 295:6, 301:43, 302:28, 310:42, 311:33, 312:2, 312:4, 318:46, 319:6, 319:45, 320:6, 320:23, 323:34, 324:7 numbering [2] - 294:39, 324:8 numbers [5] - 281:34, 282:46, 284:34, 311:30, 311:31 numerous [1] - 281:24 Nurthen [27] - 279:4, 279:30, 280:17, 280:44, 291:22, 291:28, 292:44, 297:2, 299:39, 300:30, 301:22, 302:30, 302:38,	315:38, 315:43, 316:17, 316:23, 317:28, 318:32, 323:46 O'clock [4] - 327:4, 327:29, 328:6 oath [1] - 280:2 objection [1] - 328:27 observation [4] - 286:29, 302:32, 303:18, 311:25 observations [3] - 293:6, 298:26, 303:6 observe [1] - 303:12 observed [1] - 320:17 obtained [1] - 281:9 obtaining [1] - 313:8 obvious [2] - 284:1, 304:34 obviously [12] - 282:1, 289:30, 291:23, 297:13, 297:14, 299:17, 301:47, 302:14, 303:11,	296:19, 296:41, 298:46, 299:13, 299:33, 301:47, 302:18, 303:30, 305:15, 311:36, 313:16, 320:7, 322:24, 323:6, 323:37, 324:30, 324:37, 327:18 ones [3] - 301:45, 309:35, 317:43 open [2] - 294:6, 298:43 operations [1] - 307:12 operationalised [1] - 294:45 operations [1] - 311:11 opinion [1] - 283:26 opportunity [3] - 293:6, 294:9, 328:21 opposed [1] - 297:43 oral [2] - 324:31, 324:44 orally [1] - 328:17 order [1] - 326:2

organising [2] -	284:14, 288:27,	288:3, 288:14,	post [1] - 311:40	305:25, 305:26,
303:10, 324:7	290:39, 291:34,	288:20, 292:43,	•	305:40, 305:44,
		302:42, 313:4,	potentially [1] -	306:15, 306:16,
otherwise [1] - 326:44	291:40, 294:4,	, ,	284:47	
outcomes [1] - 285:15	295:2, 296:29,	317:36	PowerPoint [1] -	310:35, 310:36,
outer [2] - 297:38,	297:4, 298:27,	periods [1] - 318:9	323:21	311:12, 314:5
297:39	300:4, 312:2,	permanent [1] -	predates [1] - 322:25	processes [3] -
outline [1] - 327:9	321:38, 321:43,	311:35	preparation [2] -	303:12, 310:44,
outside [1] - 297:44	328:2	persisted [1] - 304:42	303:9, 312:5	313:46
overnight [1] - 326:45	particularly [1] -	person [1] - 324:47	prepared [3] - 286:39,	processing [2] -
overseas [1] - 304:46	310:44	personally [2] -	303:39, 303:44	303:26, 310:30
overview [1] - 326:19	parties [1] - 324:28	281:40, 285:6	present [2] - 311:22,	produce [2] - 281:32,
own [1] - 290:21	parts [4] - 279:13,	phase [1] - 280:40	327:28	282:24
· · · · · · · · · · · · · · · · · · ·	296:29, 324:2,	pick [2] - 290:40,	presentation [5] -	produces [1] - 293:3
P	324:39	290:41	294:29, 296:13,	producing [2] -
F	passing [1] - 313:35	picked [4] - 282:26,	302:19, 323:21,	285:44, 286:24
page [33] - 279:30,	past [2] - 314:24,	•		Professor [1] - 279:11
	325:40	282:34, 282:37,	323:43	profile [24] - 280:24,
280:20, 280:21,		282:38	presented [2] -	•
291:44, 294:34,	People [1] - 300:18	picking [1] - 285:11	284:30, 286:6	281:2, 281:3, 281:8,
294:37, 295:10,	people [24] - 279:39,	place [5] - 284:26,	presumably [3] -	281:18, 281:26,
295:23, 295:25,	279:47, 285:22,	298:5, 300:37,	284:47, 288:21,	281:31, 281:32,
295:27, 296:19,	285:23, 286:12,	309:45, 322:28	318:39	282:24, 282:42,
296:26, 296:36,	286:34, 286:39,	placed [1] - 311:9	presumed [3] -	282:43, 283:27,
297:5, 298:19,	293:31, 295:7,	plan [4] - 303:40,	281:25, 283:46,	283:36, 284:10,
299:14, 299:20,	296:38, 298:39,	325:13, 326:12,	284:10	285:19, 285:20,
299:30, 299:33,	302:34, 302:47,	326:13	presumptive [1] -	285:26, 286:4,
300:44, 302:28,	303:12, 303:18,	planning [1] - 327:19	284:2	287:42, 288:28,
303:31, 304:3,	303:20, 305:4,	platform [1] - 317:26	pretty [3] - 298:15,	288:33, 289:38,
306:25, 308:5,	307:31, 311:46,	play [1] - 313:11	299:8, 327:37	289:40
308:35, 309:19,	312:47, 313:2,	point [18] - 279:38,	previous [7] - 298:45,	profiles [14] - 280:45,
316:32, 317:4,	325:8, 327:32,	283:35, 283:36,	301:40, 302:3,	281:20, 283:6,
317:41, 319:35	328:16	285:41, 287:28,	302:5, 302:14,	284:44, 284:46,
pages [5] - 299:32,	per [21] - 280:25,	287:33, 294:1,	303:38	285:44, 286:17,
307:33, 307:38,	280:26, 280:30,	295:11, 295:15,	previously [2] -	286:19, 286:25,
310:47, 311:8	280:33, 280:35,		297:42, 310:39	286:37, 287:25,
paper [1] - 310:34	280:38, 280:41,	295:32, 306:21,	· ·	287:26, 290:23,
paradigm [1] - 298:41	282:33, 287:41,	306:28, 309:39,	print [1] - 320:45	291:38
paragraph [16] -	288:2, 288:9,	310:21, 311:26,	print-out [1] - 320:45	profiles" [1] - 286:15
	288:24, 288:37,	323:20, 325:10,	priority [1] - 311:9	profiling [2] - 282:8,
280:21, 280:28,	316:10, 319:10,	328:12	problem [17] - 284:14,	283:9
291:22, 293:9,	319:11	pointed [1] - 303:18	284:47, 286:14,	
301:25, 305:14,		points [8] - 280:28,	286:35, 286:40,	project [1] - 295:8
307:37, 308:7,	PER [1] - 324:10	295:19, 295:41,	287:15, 288:43,	Project [3] - 278:15,
308:45, 309:27,	percentage [7] -	296:8, 306:36,	289:15, 290:1,	314:11, 314:17
309:40, 311:3,	280:29, 281:32,	307:1, 317:41, 328:2	290:10, 290:27,	projects [1] - 314:22
316:32, 321:4,	281:33, 283:7,	police [1] - 318:39	313:3, 315:36,	proper [4] - 302:35,
322:13	285:44, 287:25,	Police [5] - 279:27,	316:46, 318:29,	303:22, 311:11,
paraphrasing [2] -	320:3	285:21, 291:33,	320:14, 320:17	312:20
312:39	percentage-wise [1] -	316:4, 318:32	problems [2] - 286:38,	properly [2] - 303:19,
part [21] - 279:11,	320:3	poor [2] - 317:12,	304:25	304:40
279:36, 286:3,	perform [1] - 318:35	317:13	procedural [3] -	propose [2] - 328:1
296:27, 297:3,	performance [1] -	portion [1] - 318:34	296:40, 297:21,	provide [11] - 292:34,
297:14, 305:23,	311:44	portions [1] - 279:10	298:9	301:35, 302:38,
305:25, 305:31,	performed [1] -	posed [1] - 308:47	procedure [2] -	304:23, 308:4,
305:39, 305:41,	292:16	position [2] - 311:8,	297:12, 307:13	309:27, 309:29,
305:44, 307:18,	performing [1] - 319:6	•	proceed [1] - 301:13	310:20, 313:30,
310:39, 311:34,	perhaps [3] - 306:39,	326:41	•	326:43, 327:14
312:46, 313:11,	323:34, 326:5	positive [2] - 284:1,	process [24] - 289:45,	provided [5] - 279:33,
318:12, 321:7,	period [14] - 281:30,	284:3	290:6, 294:18,	•
322:47, 324:42	•	possible [2] - 292:21,	295:43, 297:23,	302:13, 309:24,
	282:21, 284:41,	328:8	297:35, 298:5,	318:11, 325:39
partially [1] - 316:17	284:42, 285:9,	possibly [3] - 283:23,	301:13, 305:1,	provides [1] - 309:22
particular [15] -	285:45, 286:33,	284:41, 326:3	305:17, 305:23,	providing [1] - 308:13

	202.0 205.20	I 204-40	202.22 202.47	
provision [1] - 300:1	323:2, 325:32, 326:37	real [1] - 284:19 realised [1] - 291:39	302:33, 303:17, 303:33, 304:24,	relatively [1] - 303:18 release [3] - 318:46,
publicly [1] - 326:20 purpose [1] - 319:26	quote [2] - 293:26,	really [10] - 287:2,	304:39, 306:28,	322:43
purposes [1] - 326:33	298:21	290:29, 292:33,	306:29, 307:38,	releasing [1] - 290:41
push [2] - 300:47,	quoted [4] - 291:22,	302:35, 306:18,	308:1, 308:31,	relevant [2] - 279:10,
311:12	309:26, 309:33,	308:25, 315:36,	309:22, 311:26	321:6
pushing [2] - 301:5,	309:36	326:35, 328:1	Reeves's [1] - 310:21	relying [1] - 284:45
328:9		reason [3] - 292:29,	reference [14] -	remain [1] - 310:30
put [18] - 280:37,	R	307:37, 318:36	289:22, 293:47,	remember [28] -
286:39, 297:31,		reasonably [2] -	297:21, 297:22,	281:37, 281:40,
298:27, 298:28,	raise [3] - 285:32,	311:6, 318:2	299:31, 299:38,	284:13, 284:41,
304:24, 304:39,	325:41, 326:3	reasons [1] - 314:23	301:24, 305:8,	286:47, 287:34,
310:42, 312:2,	raised [11] - 289:6,	receive [1] - 316:3	306:32, 309:25,	287:35, 287:40,
315:38, 317:19,	293:31, 294:3,	received [5] - 281:24,	310:23, 310:26,	287:43, 290:26,
320:20, 324:39,	294:27, 299:18,	291:5, 300:13,	310:33, 311:14	290:28, 290:29,
324:41, 324:46,	300:24, 311:4,	312:18, 316:2	referenced [1] -	290:35, 298:31,
325:3, 327:1, 327:19	317:6, 317:7,	receiving [1] - 295:8	307:38	299:5, 303:8,
puts [2] - 281:28,	321:19, 327:18	recently [1] - 282:46	references [2] - 306:7,	306:19, 308:21,
324:44	raises [1] - 308:1	recognised [2] -	308:46	308:25, 310:35,
putting [1] - 312:46	raising [3] - 294:12,	281:38, 282:25	referred [6] - 289:20,	312:17, 312:42,
	296:40, 307:45	recollection [16] -	296:14, 301:22,	315:18, 322:7,
Q	rambling [1] - 308:9 rang [2] - 285:46,	284:19, 288:39,	305:41, 311:31, 313:5	322:36, 322:37, 322:39
QPS [6] - 281:1,	287:40	290:33, 290:40,	referring [1] - 290:13	
283:1, 283:5,	range [2] - 308:38,	291:31, 292:23,	refers [1] - 295:7	replicates [1] - 319:36
317:11, 318:13,	318:9	292:27, 296:10,	reflected [1] - 282:2	report [16] - 291:6, 291:44, 292:18,
322:11	rapidly [1] - 284:1	300:14, 300:36, 301:4, 301:8,	reflecting [1] - 311:30	314:12, 314:17,
quality [2] - 285:14,	rate [5] - 280:38,	305:39, 306:8,	reflective [1] - 320:22	314:21, 318:2,
311:11	282:32, 288:9,	310:20, 316:9	regarding [2] -	320:45, 321:8,
quarter [1] - 325:40	292:30, 308:2	recommenced [1] -	295:28, 323:36	321:38, 321:43,
Queensland [7] -	rates [9] - 282:7,	314:44	register [1] - 317:23	322:3, 323:2,
279:27, 285:21,	282:17, 282:29,	recommendation [7] -	regular [2] - 282:30,	326:16, 326:18
291:33, 316:4,	284:40, 284:42,	292:3, 312:31,	295:4	report's [1] - 318:38
318:32, 325:20,	285:9, 286:2,	312:33, 312:35,	regularly [1] - 300:38	reported [2] - 300:39,
327:19	308:36, 308:40	312:42, 313:11,	reimplement [1] -	304:29
questions [29] -	rather [6] - 280:34,	313:39	318:37	reporters [1] - 303:28
285:29, 289:2,	294:24, 304:42,	recommendations [4]	reimplementation" [1]	reporting [5] - 292:42,
289:3, 294:16,	309:34, 320:16,	- 311:33, 311:34,	- 286:37	294:44, 307:7,
294:23, 294:24,	320:18	313:5, 314:21	reintroduced [2] -	307:12, 314:22
294:31, 296:13,	rayon [8] - 289:36,	recommended [2] -	314:37, 317:24	reports [3] - 291:10,
296:15, 297:10,	289:46, 290:1,	312:34, 313:41	relate [3] - 297:11,	301:28, 323:3
297:16, 297:33,	290:7, 290:14,	recommending [1] -	297:18, 306:5	representative [1] -
297:34, 298:8, 298:9, 299:22,	319:15, 319:22, 319:24	307:11	related [4] - 292:21,	295:5
304:4, 307:6,	re [2] - 305:47, 306:45	record [3] - 279:36,	297:35, 299:17,	representatives [3] - 279:17, 300:37,
307:13, 308:46,	re-extracting [1] -	282:22, 294:26	317:30	321:5
312:27, 314:33,	305:47	record-keeping [1] - 282:22	relates [4] - 282:16,	reps [1] - 321:15
320:27, 323:9,	reaction [1] - 284:1	records [6] - 293:2,	294:10, 306:3, 306:45	request [1] - 300:14
323:14, 323:36,	read [15] - 281:10,	294:28, 295:1,	relating [2] - 305:13,	requested [1] - 282:1
323:46, 324:12,	289:8, 290:9,	296:11, 300:36,	305:47	require [1] - 313:17
324:19	290:17, 307:7,	317:14	relation [18] - 279:9,	required [3] - 301:18,
questions/Issues [1] -	307:12, 308:16,	recovery[1] - 303:15	280:22, 293:8,	312:8, 314:20
295:28	310:10, 319:26,	redone [1] - 322:18	293:26, 294:42,	rereading [2] - 291:8,
quick [2] - 321:16,	321:16, 321:21,	reducing [1] - 312:23	296:32, 296:35,	322:9
325:29	322:2, 322:3, 325:8,	reduction [1] - 319:40	297:41, 302:23,	resolve [1] - 300:12
quickly [1] - 325:32	325:32	Reeves [21] - 279:28,	302:39, 303:17,	resolving [1] - 318:25
quite [10] - 283:22,	reading [3] - 310:12,	292:37, 292:39,	305:7, 305:36,	respect [9] - 279:24,
283:23, 292:20,	310:40, 319:34	294:1, 294:5,	306:30, 306:39,	289:2, 291:31,
299:18, 306:21,	ready [3] - 291:34,	294:42, 295:6,	308:14, 320:27,	299:14, 302:17,
308:19, 317:45,	303:43, 324:37	296:28, 300:2,	323:38	305:35, 312:34,

314:33, 327:13 respond [4] - 293:6, 304:38, 311:13, 326:22 responding [5] - 293:45, 294:31, 294:33, 296:15, 298:22	305:16, 305:19, 318:22 robotics [1] - 281:13 robots [1] - 314:39 rolling [1] - 310:22 room [1] - 325:35 Rubagotti [1] - 278:35 rumours [1] - 324:33	302:44, 307:12, 308:2, 323:19, 327:13 scrapings [3] - 295:44, 298:7, 298:17 screen [1] - 293:13 searching [1] - 322:46	[1] - 292:42 sense [1] - 292:19 sensible [1] - 308:43 sensitive [1] - 286:41 sent [11] - 294:12, 295:2, 299:35, 302:17, 303:32, 304:4, 309:5,	Slicprep [5] - 295:45, 297:31, 298:39, 298:42, 307:23 Slicpreps [1] - 297:25 slide [1] - 323:36 slightly [1] - 319:47 small [6] - 291:46, 292:14, 319:6,
response [16] - 279:32, 291:25,	run [1] - 316:5 rung [2] - 284:27,	seats [2] - 279:40, 279:47	309:28, 317:15, 318:34, 325:17	319:45, 320:6, 320:23
293:4, 293:47, 294:46, 300:1, 301:36, 303:35,	285:29 RUSSELL [1] - 280:7	second [21] - 279:25, 279:28, 279:29, 284:17, 289:12,	sentence [8] - 292:1, 292:6, 300:43, 307:18, 307:19,	Smallwood [1] - 290:16 Sofronoff [3] - 317:21,
304:23, 308:5, 308:46, 309:30,	S	289:17, 291:5, 291:20, 291:22,	309:39, 317:7, 317:22	320:44, 323:1 solely [1] - 300:35
311:27, 317:5,	Sam [1] - 307:2	291:26, 292:6,	series [1] - 318:47	solution [1] - 318:25
317:6, 317:10	sample [13] - 283:23,	292:47, 293:37,	Services [1] - 279:27	solutions [1] - 316:36
responsibility [2] -	283:35, 284:1,	295:11, 295:32,	session [2] - 301:27,	solve [1] - 288:43
303:25, 303:27	284:5, 292:14,	296:35, 300:44,	302:46	someone [10] -
responsive [5] -	298:3, 309:15,	301:23, 304:6,	sessions [1] - 301:46	280:44, 283:4,
279:34, 298:28,	319:6, 319:10,	314:34, 316:32	set [5] - 280:22, 287:7,	285:30, 285:32,
306:10, 310:21,	319:19, 319:45,	section [9] - 292:41,	293:9, 304:6, 304:7	286:43, 287:35,
311:25	320:6, 320:23	299:37, 300:5,	sets [1] - 287:5	289:14, 299:18,
rest [1] - 322:19	sampled [4] - 282:13,	300:45, 302:44,	setting [1] - 294:22	313:4, 317:13
result [3] - 283:30,	283:25, 285:23	307:9, 308:6,	several [1] - 284:39	sometimes [2] -
283:31, 301:42	samples [35] - 280:23,	311:38, 311:42	sexual [1] - 309:14	297:46, 325:8
results [15] - 285:16,	280:28, 281:8,	sections [1] - 284:26	shared [1] - 300:39	SOP [1] - 307:8
288:20, 288:36,	281:15, 281:20,	see [29] - 280:22,	sharing [1] - 303:34	sorry [17] - 280:20,
289:38, 289:40,	281:25, 282:23,	280:24, 280:44,	sheet [2] - 294:42,	283:39, 283:41,
292:13, 308:38,	282:39, 283:6,	289:5, 290:46,	295:2	283:43, 287:31,
317:12, 317:14,	283:7, 283:19,	296:19, 296:28,	shift [2] - 298:41,	289:3, 290:12,
318:42, 318:45,	283:44, 284:9,	297:5, 298:8,	298:45	291:1, 291:30,
319:35, 319:44,	284:34, 285:37,	299:37, 301:1,	short [5] - 279:30,	293:11, 295:21,
320:21	285:44, 286:24,	301:24, 301:31,	279:34, 292:8,	299:13, 304:32,
resume [2] - 279:3,	287:41, 288:28,	302:47, 304:27,	317:22, 327:8	314:42, 317:7,
279:40	288:32, 292:32,	305:20, 306:1,	show [4] - 280:24,	319:9, 326:25
resumed [1] - 279:38	296:41, 296:42,	306:4, 306:31,	281:28, 297:37,	Sorry [1] - 290:4
retained [2] - 299:24,	297:42, 299:17,	308:5, 312:23,	323:36	sort [14] - 283:44,
299:26	309:25, 310:1,	312:37, 315:26,	shows [3] - 303:33,	283:45, 284:22,
return [1] - 318:24	310:7, 310:9,	318:35, 322:15,	308:1, 308:19	285:35, 286:28,
returned [1] - 320:14	310:23, 310:26,	322:23, 325:8, 326:5	sic [1] - 280:41	291:36, 293:40,
revealed [2] - 280:29,	310:33, 310:41,	seeing [8] - 282:42,	side [4] - 284:44,	298:45, 313:24,
282:22	310:42, 312:2	282:45, 286:7,	325:34, 325:35	318:14, 318:16,
reveals [1] - 294:43	samples" [1] - 281:17	286:20, 286:23,	sides [1] - 284:45	322:20, 323:2, 323:4
reverting [3] - 289:36,	sampling [7] - 282:23,	286:26, 287:40,	sign [1] - 308:13	sorts [1] - 285:28
289:45, 290:6	296:43, 297:41,	287:43	sign-off [1] - 308:13	sounds [1] - 281:6
review [6] - 294:9,	300:15, 309:44,	seeking [3] - 302:18,	signed [1] - 301:29	sources [1] - 314:6
294:28, 296:11,	310:10, 310:44	302:19, 306:16	significance [1] -	spare [1] - 293:12
311:32, 312:30,	saw [1] - 287:39	seem [8] - 284:13,	309:2	SPEAKER [2] -
314:24	SC [2] - 278:29,	297:9, 306:19,	significant [5] -	324:19, 327:12
reviewing [1] - 293:28	278:34	307:23, 315:17,	280:36, 286:20,	specific [4] - 283:21,
reviews [1] - 282:29	SCHEDULE [1] -	319:43, 319:46,	286:21, 286:23,	287:2, 296:41,
RICE [7] - 323:17,	324:10	324:21	311:9	322:40
323:26, 323:32,	scientific [1] - 314:1	send [2] - 294:24,	simplistic [1] - 286:3	specifically [4] -
324:4, 325:19,	scientist [2] - 292:42,	322:19	single [1] - 287:19	284:13, 287:34,
325:26, 325:32	307:7	sending [1] - 291:34	sit [2] - 279:46	287:38, 296:10
rightly [1] - 299:18	scientists [11] -	senior [3] - 293:40,	situation [1] - 312:22	spike [3] - 281:15,
ring [1] - 280:42	293:41, 294:4,	294:3, 301:17	situations [1] - 312.22	289:37, 289:40
rise [2] - 288:1, 316:10	294:31, 294:44,	Senior [1] - 278:34		spin [1] - 315:7
robot [4] - 303:1,	300:34, 301:17,	senior/supervising	size [3] - 292:14, 309:44, 310:10	spoken [2] - 305:4,

309:37	283:11, 283:15	suddenly [2] - 288:32,	319:43, 319:44,	296:44, 300:38,
spun [5] - 289:36,	stick [2] - 285:25,	293:37	319:47, 320:1	300:40, 301:16,
289:45, 290:1,	326:13	suffered [1] - 311:11	swabs [58] - 287:1,	302:1, 302:12,
290:6, 290:14	sticking [1] - 290:43	sufficient [3] - 284:8,	289:27, 289:36,	302:13, 302:18,
staff [13] - 286:42,	still [13] - 284:4,	326:15, 327:41	289:46, 290:2,	302:19, 303:15,
294:12, 294:27,	285:43, 286:14,	suggest [3] - 308:32,	290:7, 290:10,	303:26, 306:14,
298:47, 300:17,	286:36, 287:24,	324:33, 328:8	290:14, 290:17,	307:26, 309:43,
301:12, 302:35,	288:15, 289:19,	suggested [1] -	290:23, 290:24,	310:9, 311:18,
303:23, 309:6,	295:23, 310:43,	308:22	290:27, 290:39,	311:43, 312:21,
310:44, 311:35,	311:33, 314:11,	suggesting [1] -	290:40, 291:26,	312:47, 313:6,
311:36, 311:43	314:20, 317:47	286:34	291:34, 291:46,	314:7, 316:5, 318:6
stage [4] - 285:39,	stood [1] - 297:19	suggestion [1] -	292:21, 292:22,	teams [5] - 296:16,
305:9, 310:29, 316:5	stopgap [1] - 318:25	303:17	292:28, 292:30,	300:11, 300:38,
stages [1] - 314:23	stopped [4] - 288:10,		297:21, 297:38,	300:39, 301:46
stand [1] - 296:2	288:17, 305:15,	suggestions [1] -	315:11, 315:13,	tease [1] - 287:7
• •		294:17	315:14, 315:15,	temporary [2] -
standard [2] - 297:9,	318:21	suggests [1] - 303:21	315:26, 315:29,	311:35, 311:39
307:12	stopping [1] - 325:7	summarised [1] -	315:43, 316:1,	
stark [1] - 284:22	store [1] - 323:33	323:5	316:3, 316:6, 316:7,	tend [1] - 279:47
start [19] - 280:9,	Storer [1] - 294:41	summary [2] - 320:46,		tender [4] - 279:11,
291:28, 291:34,	STORstar [2] - 298:39,	326:19	316:28, 317:11,	323:34, 324:4,
300:13, 300:47,	303:11	superintendent [1] -	317:16, 318:15,	325:13
301:6, 301:39,	Street [1] - 278:22	279:26	318:17, 318:18,	tendered [3] - 279:25,
301:41, 301:44,	strike [1] - 287:43	Superintendent [2] -	318:29, 318:33,	279:35, 325:6
306:38, 308:4,	structure [3] - 300:35,	281:9, 314:34	318:34, 318:38,	TENDERED [2] -
309:26, 310:25,	300:37, 326:2	supernatant [5] -	318:43, 319:34,	279:42, 324:10
311:24, 317:7,	study [2] - 291:47,	299:15, 299:16,	320:15, 320:20,	tenders [1] - 279:7
327:28, 328:5,	307:46	299:19, 299:25,	321:35, 322:12,	term [2] - 281:3,
328:6, 328:19	stuff [1] - 309:14	299:26	322:17, 322:37,	318:24
started [6] - 291:37,	sub [1] - 297:41	supervisor [1] - 318:6	322:40, 322:47	terminology [1] -
298:5, 310:40,	sub-sampling [1] -	supplied [1] - 318:17	system [9] - 284:25,	286:23
314:28, 316:3,	297:41	• • • • • • • • • • • • • • • • • • • •	294:45, 302:32,	terms [15] - 281:3,
314:28, 316:3, 318:18	297:41	supplier [1] - 322:18	307:36, 308:3,	terms [15] - 281:3, 282:6, 282:13,
	297:41 submission [4] -	supplier [1] - 322:18 support [5] - 300:32,	307:36, 308:3, 309:7, 309:21,	
318:18	297:41 submission [4] - 326:33, 327:8,	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18,	307:36, 308:3, 309:7, 309:21, 310:22, 317:32	282:6, 282:13,
318:18 starting [2] - 294:13,	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] -	282:6, 282:13, 286:17, 286:19,
318:18 starting [2] - 294:13, 327:27	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] -	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] -	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28	282:6, 282:13, 286:17, 286:19, 293:30, 301:5,
318:18 starting [2] - 294:13, 327:27 starts [2] - 299:29,	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] - 324:27, 324:31,	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] - 308:20, 308:23,	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28 systemic [2] - 286:13,	282:6, 282:13, 286:17, 286:19, 293:30, 301:5, 308:30, 309:2,
318:18 starting [2] - 294:13, 327:27 starts [2] - 299:29, 300:45 statement [31] -	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] - 324:27, 324:31, 325:17, 325:20,	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] - 308:20, 308:23, 308:26	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28	282:6, 282:13, 286:17, 286:19, 293:30, 301:5, 308:30, 309:2, 311:25, 311:30,
318:18 starting [2] - 294:13, 327:27 starts [2] - 299:29, 300:45	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] - 324:27, 324:31, 325:17, 325:20, 325:38, 326:1,	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] - 308:20, 308:23, 308:26 suppose [1] - 293:12	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28 systemic [2] - 286:13,	282:6, 282:13, 286:17, 286:19, 293:30, 301:5, 308:30, 309:2, 311:25, 311:30, 313:3, 314:7,
318:18 starting [2] - 294:13, 327:27 starts [2] - 299:29, 300:45 statement [31] - 279:25, 279:29,	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] - 324:27, 324:31, 325:17, 325:20, 325:38, 326:1, 326:7, 326:10,	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] - 308:20, 308:23, 308:26 suppose [1] - 293:12 supposedly [1] -	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28 systemic [2] - 286:13, 286:23	282:6, 282:13, 286:17, 286:19, 293:30, 301:5, 308:30, 309:2, 311:25, 311:30, 313:3, 314:7, 327:27, 328:2
318:18 starting [2] - 294:13, 327:27 starts [2] - 299:29, 300:45 statement [31] - 279:25, 279:29, 279:30, 280:11, 287:39, 289:7,	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] - 324:27, 324:31, 325:17, 325:20, 325:38, 326:1, 326:7, 326:10, 326:16, 326:17,	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] - 308:20, 308:23, 308:26 suppose [1] - 293:12 supposedly [1] - 287:42	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28 systemic [2] - 286:13, 286:23	282:6, 282:13, 286:17, 286:19, 293:30, 301:5, 308:30, 309:2, 311:25, 311:30, 313:3, 314:7, 327:27, 328:2 test [9] - 284:2, - 292:33, 312:3,
318:18 starting [2] - 294:13, 327:27 starts [2] - 299:29, 300:45 statement [31] - 279:25, 279:29, 279:30, 280:11, 287:39, 289:7, 289:12, 289:17,	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] - 324:27, 324:31, 325:17, 325:20, 325:38, 326:1, 326:7, 326:10, 326:16, 326:17, 326:19	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] - 308:20, 308:23, 308:26 suppose [1] - 293:12 supposedly [1] - 287:42 supposition [1] -	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28 systemic [2] - 286:13, 286:23 systems [1] - 324:8	282:6, 282:13, 286:17, 286:19, 293:30, 301:5, 308:30, 309:2, 311:25, 311:30, 313:3, 314:7, 327:27, 328:2 test [9] - 284:2, - 292:33, 312:3, 315:30, 317:16,
318:18 starting [2] - 294:13, 327:27 starts [2] - 299:29, 300:45 statement [31] - 279:25, 279:29, 279:30, 280:11, 287:39, 289:7,	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] - 324:27, 324:31, 325:17, 325:20, 325:38, 326:1, 326:7, 326:10, 326:16, 326:17, 326:19 submit [2] - 298:4,	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] - 308:20, 308:23, 308:26 suppose [1] - 293:12 supposedly [1] - 287:42 supposition [1] - 306:18	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28 systemic [2] - 286:13, 286:23 systems [1] - 324:8	282:6, 282:13, 286:17, 286:19, 293:30, 301:5, 308:30, 309:2, 311:25, 311:30, 313:3, 314:7, 327:27, 328:2 test [9] - 284:2, - 292:33, 312:3,
318:18 starting [2] - 294:13, 327:27 starts [2] - 299:29, 300:45 statement [31] - 279:25, 279:29, 279:30, 280:11, 287:39, 289:7, 289:12, 289:17, 289:19, 289:21,	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] - 324:27, 324:31, 325:17, 325:20, 325:38, 326:1, 326:7, 326:10, 326:16, 326:17, 326:19 submit [2] - 298:4, 327:42	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] - 308:20, 308:23, 308:26 suppose [1] - 293:12 supposedly [1] - 287:42 supposition [1] - 306:18 surely [1] - 282:2	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28 systemic [2] - 286:13, 286:23 systems [1] - 324:8	282:6, 282:13, 286:17, 286:19, 293:30, 301:5, 308:30, 309:2, 311:25, 311:30, 313:3, 314:7, 327:27, 328:2 test [9] - 284:2, - 292:33, 312:3, 315:30, 317:16, - 318:30, 318:33, 318:38, 321:35
318:18 starting [2] - 294:13, 327:27 starts [2] - 299:29, 300:45 statement [31] - 279:25, 279:29, 279:30, 280:11, 287:39, 289:7, 289:12, 289:17, 289:19, 289:21, 291:6, 291:23,	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] - 324:27, 324:31, 325:17, 325:20, 325:38, 326:1, 326:7, 326:10, 326:16, 326:17, 326:19 submit [2] - 298:4, 327:42 submitted [1] - 284:4	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] - 308:20, 308:23, 308:26 suppose [1] - 293:12 supposedly [1] - 287:42 supposition [1] - 306:18 surely [1] - 282:2 surface [1] - 319:34	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28 systemic [2] - 286:13, 286:23 systems [1] - 324:8	282:6, 282:13, 286:17, 286:19, 293:30, 301:5, 308:30, 309:2, 311:25, 311:30, 313:3, 314:7, 327:27, 328:2 test [9] - 284:2, - 292:33, 312:3, 315:30, 317:16, - 318:30, 318:33,
318:18 starting [2] - 294:13, 327:27 starts [2] - 299:29, 300:45 statement [31] - 279:25, 279:29, 279:30, 280:11, 287:39, 289:7, 289:12, 289:17, 289:19, 289:21, 291:6, 291:23, 292:37, 292:47,	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] - 324:27, 324:31, 325:17, 325:20, 325:38, 326:1, 326:7, 326:10, 326:16, 326:17, 326:19 submit [2] - 298:4, 327:42 submitted [1] - 284:4 subsequent [1] -	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] - 308:20, 308:23, 308:26 suppose [1] - 293:12 supposedly [1] - 287:42 supposition [1] - 306:18 surely [1] - 282:2 surface [1] - 319:34 surprising [1] -	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28 systemic [2] - 286:13, 286:23 systems [1] - 324:8 T table [3] - 280:20, 299:31, 325:35	282:6, 282:13, 286:17, 286:19, 293:30, 301:5, 308:30, 309:2, 311:25, 311:30, 313:3, 314:7, 327:27, 328:2 test [9] - 284:2, - 292:33, 312:3, 315:30, 317:16, - 318:30, 318:33, 318:38, 321:35 tested [7] - 280:28, 292:19, 318:36,
318:18 starting [2] - 294:13, 327:27 starts [2] - 299:29, 300:45 statement [31] - 279:25, 279:29, 279:30, 280:11, 287:39, 289:7, 289:12, 289:17, 289:19, 289:21, 291:6, 291:23, 292:37, 292:47, 293:9, 293:25,	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] - 324:27, 324:31, 325:17, 325:20, 325:38, 326:1, 326:7, 326:10, 326:16, 326:17, 326:19 submit [2] - 298:4, 327:42 submitted [1] - 284:4 subsequent [1] - 320:13	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] - 308:20, 308:23, 308:26 suppose [1] - 293:12 supposedly [1] - 287:42 supposition [1] - 306:18 surely [1] - 282:2 surface [1] - 319:34 surprising [1] - 308:17	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28 systemic [2] - 286:13, 286:23 systems [1] - 324:8 T table [3] - 280:20, 299:31, 325:35 tape [6] - 297:23,	282:6, 282:13, 286:17, 286:19, 293:30, 301:5, 308:30, 309:2, 311:25, 311:30, 313:3, 314:7, 327:27, 328:2 test [9] - 284:2, - 292:33, 312:3, 315:30, 317:16, - 318:30, 318:33, 318:38, 321:35 tested [7] - 280:28,
318:18 starting [2] - 294:13, 327:27 starts [2] - 299:29, 300:45 statement [31] - 279:25, 279:29, 279:30, 280:11, 287:39, 289:7, 289:12, 289:17, 289:19, 289:21, 291:6, 291:23, 292:37, 292:47, 293:9, 293:25, 294:11, 294:35, 294:37, 294:43,	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] - 324:27, 324:31, 325:17, 325:20, 325:38, 326:1, 326:7, 326:10, 326:16, 326:17, 326:19 submit [2] - 298:4, 327:42 submitted [1] - 284:4 subsequent [1] - 320:13 subsequently [2] -	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] - 308:20, 308:23, 308:26 suppose [1] - 293:12 supposedly [1] - 287:42 supposition [1] - 306:18 surely [1] - 282:2 surface [1] - 319:34 surprising [1] - 308:17 swab [33] - 284:14,	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28 systemic [2] - 286:13, 286:23 systems [1] - 324:8 T table [3] - 280:20, 299:31, 325:35 tape [6] - 297:23, 297:24, 297:26,	282:6, 282:13, 286:17, 286:19, 293:30, 301:5, 308:30, 309:2, 311:25, 311:30, 313:3, 314:7, 327:27, 328:2 test [9] - 284:2, - 292:33, 312:3, 315:30, 317:16, - 318:30, 318:33, 318:38, 321:35 tested [7] - 280:28, 292:19, 318:36, 318:38, 320:12, 320:15, 322:17
318:18 starting [2] - 294:13, 327:27 starts [2] - 299:29, 300:45 statement [31] - 279:25, 279:29, 279:30, 280:11, 287:39, 289:7, 289:12, 289:17, 289:19, 289:21, 291:6, 291:23, 292:37, 292:47, 293:9, 293:25, 294:11, 294:35, 294:37, 294:43, 298:20, 298:37,	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] - 324:27, 324:31, 325:17, 325:20, 325:38, 326:1, 326:7, 326:10, 326:16, 326:17, 326:19 submit [2] - 298:4, 327:42 submitted [1] - 284:4 subsequent [1] - 320:13 subsequently [2] - 301:45, 322:32	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] - 308:20, 308:23, 308:26 suppose [1] - 293:12 supposedly [1] - 287:42 supposition [1] - 306:18 surely [1] - 282:2 surface [1] - 319:34 surprising [1] - 308:17 swab [33] - 284:14, 284:16, 289:6,	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28 systemic [2] - 286:13, 286:23 systems [1] - 324:8 T table [3] - 280:20, 299:31, 325:35 tape [6] - 297:23, 297:24, 297:26, 297:28, 298:14,	282:6, 282:13, 286:17, 286:19, 293:30, 301:5, 308:30, 309:2, 311:25, 311:30, 313:3, 314:7, 327:27, 328:2 test [9] - 284:2, - 292:33, 312:3, 315:30, 317:16, - 318:30, 318:33, 318:38, 321:35 tested [7] - 280:28, 292:19, 318:36, 318:38, 320:12, 320:15, 322:17 testimony [1] - 310:26
318:18 starting [2] - 294:13, 327:27 starts [2] - 299:29, 300:45 statement [31] - 279:25, 279:29, 279:30, 280:11, 287:39, 289:7, 289:12, 289:17, 289:19, 289:21, 291:6, 291:23, 292:37, 292:47, 293:9, 293:25, 294:11, 294:35, 294:37, 294:43,	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] - 324:27, 324:31, 325:17, 325:20, 325:38, 326:1, 326:7, 326:10, 326:16, 326:17, 326:19 submit [2] - 298:4, 327:42 submitted [1] - 284:4 subsequent [1] - 320:13 subsequently [2] - 301:45, 322:32 substance [1] -	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] - 308:20, 308:23, 308:26 suppose [1] - 293:12 supposedly [1] - 287:42 supposition [1] - 306:18 surely [1] - 282:2 surface [1] - 319:34 surprising [1] - 308:17 swab [33] - 284:14, 284:16, 289:6, 289:14, 289:37,	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28 systemic [2] - 286:13, 286:23 systems [1] - 324:8 T table [3] - 280:20, 299:31, 325:35 tape [6] - 297:23, 297:24, 297:26, 297:28, 298:14, 298:15	282:6, 282:13, 286:17, 286:19, 293:30, 301:5, 308:30, 309:2, 311:25, 311:30, 313:3, 314:7, 327:27, 328:2 test [9] - 284:2, - 292:33, 312:3, 315:30, 317:16, - 318:30, 318:33, 318:38, 321:35 tested [7] - 280:28, 292:19, 318:36, 318:38, 320:12, 320:15, 322:17 testimony [1] - 310:26 testing [25] - 283:45,
318:18 starting [2] - 294:13, 327:27 starts [2] - 299:29, 300:45 statement [31] - 279:25, 279:29, 279:30, 280:11, 287:39, 289:7, 289:12, 289:17, 289:19, 289:21, 291:6, 291:23, 292:37, 292:47, 293:9, 293:25, 294:11, 294:35, 294:37, 294:43, 298:20, 298:37, 304:45, 304:46,	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] - 324:27, 324:31, 325:17, 325:20, 325:38, 326:1, 326:7, 326:10, 326:16, 326:17, 326:19 submit [2] - 298:4, 327:42 submitted [1] - 284:4 subsequent [1] - 320:13 subsequently [2] - 301:45, 322:32 substance [1] - 326:35	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] - 308:20, 308:23, 308:26 suppose [1] - 293:12 supposedly [1] - 287:42 supposition [1] - 306:18 surely [1] - 282:2 surface [1] - 319:34 surprising [1] - 308:17 swab [33] - 284:14, 284:16, 289:6, 289:14, 289:37, 289:41, 290:15,	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28 systemic [2] - 286:13, 286:23 systems [1] - 324:8 T table [3] - 280:20, 299:31, 325:35 tape [6] - 297:23, 297:24, 297:26, 297:28, 298:14, 298:15 tape-lifts [6] - 297:23,	282:6, 282:13, 286:17, 286:19, 293:30, 301:5, 308:30, 309:2, 311:25, 311:30, 313:3, 314:7, 327:27, 328:2 test [9] - 284:2, - 292:33, 312:3, 315:30, 317:16, - 318:30, 318:33, 318:38, 321:35 tested [7] - 280:28, 292:19, 318:36, 318:38, 320:12, 320:15, 322:17 testimony [1] - 310:26 testing [25] - 283:45, 287:7, 291:8, 292:8,
318:18 starting [2] - 294:13, 327:27 starts [2] - 299:29, 300:45 statement [31] - 279:25, 279:29, 279:30, 280:11, 287:39, 289:7, 289:12, 289:17, 289:19, 289:21, 291:6, 291:23, 292:37, 292:47, 293:9, 293:25, 294:11, 294:35, 294:37, 294:43, 298:20, 298:37, 304:45, 304:46, 305:33, 308:45,	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] - 324:27, 324:31, 325:17, 325:20, 325:38, 326:1, 326:7, 326:10, 326:16, 326:17, 326:19 submit [2] - 298:4, 327:42 submitted [1] - 284:4 subsequent [1] - 320:13 subsequently [2] - 301:45, 322:32 substance [1] - 326:35 substantially [1] -	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] - 308:20, 308:23, 308:26 suppose [1] - 293:12 supposedly [1] - 287:42 supposition [1] - 306:18 surely [1] - 282:2 surface [1] - 319:34 surprising [1] - 308:17 swab [33] - 284:14, 284:16, 289:6, 289:14, 289:37, 289:41, 290:15, 290:42, 290:43,	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28 systemic [2] - 286:13, 286:23 systems [1] - 324:8 T table [3] - 280:20, 299:31, 325:35 tape [6] - 297:23, 297:24, 297:26, 297:28, 298:14, 298:15 tape-lifts [6] - 297:23, 297:24, 297:26,	282:6, 282:13, 286:17, 286:19, 293:30, 301:5, 308:30, 309:2, 311:25, 311:30, 313:3, 314:7, 327:27, 328:2 test [9] - 284:2, - 292:33, 312:3, 315:30, 317:16, - 318:30, 318:33, 318:38, 321:35 tested [7] - 280:28, 292:19, 318:36, 318:38, 320:12, 320:15, 322:17 testimony [1] - 310:26 testing [25] - 283:45, 287:7, 291:8, 292:8, 299:15, 299:16,
318:18 starting [2] - 294:13, 327:27 starts [2] - 299:29, 300:45 statement [31] - 279:25, 279:29, 279:30, 280:11, 287:39, 289:7, 289:12, 289:17, 289:19, 289:21, 291:6, 291:23, 292:37, 292:47, 293:9, 293:25, 294:11, 294:35, 294:37, 294:43, 298:20, 298:37, 304:45, 304:46, 305:33, 308:45, 309:19, 312:5,	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] - 324:27, 324:31, 325:17, 325:20, 325:38, 326:1, 326:7, 326:10, 326:16, 326:17, 326:19 submit [2] - 298:4, 327:42 submitted [1] - 284:4 subsequent [1] - 320:13 subsequently [2] - 301:45, 322:32 substance [1] - 326:35 substantially [1] - 320:3	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] - 308:20, 308:23, 308:26 suppose [1] - 293:12 supposedly [1] - 287:42 supposition [1] - 306:18 surely [1] - 282:2 surface [1] - 319:34 surprising [1] - 308:17 swab [33] - 284:14, 284:16, 289:6, 289:14, 289:37, 289:41, 290:15, 290:42, 290:43, 290:44, 291:40,	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28 systemic [2] - 286:13, 286:23 systems [1] - 324:8 T table [3] - 280:20, 299:31, 325:35 tape [6] - 297:23, 297:24, 297:26, 297:28, 298:14, 298:15 tape-lifts [6] - 297:23, 297:24, 297:26, 297:28, 298:14,	282:6, 282:13, 286:17, 286:19, 293:30, 301:5, 308:30, 309:2, 311:25, 311:30, 313:3, 314:7, 327:27, 328:2 test [9] - 284:2, - 292:33, 312:3, 315:30, 317:16, - 318:30, 318:33, 318:38, 321:35 tested [7] - 280:28, 292:19, 318:36, 318:38, 320:12, 320:15, 322:17 testimony [1] - 310:26 testing [25] - 283:45, 287:7, 291:8, 292:8, 299:15, 299:16, 299:19, 299:26,
318:18 starting [2] - 294:13, 327:27 starts [2] - 299:29, 300:45 statement [31] - 279:25, 279:29, 279:30, 280:11, 287:39, 289:7, 289:12, 289:17, 289:19, 289:21, 291:6, 291:23, 292:37, 292:47, 293:9, 293:25, 294:11, 294:35, 294:37, 294:43, 298:20, 298:37, 304:45, 304:46, 305:33, 308:45, 309:19, 312:5, 314:34, 317:20,	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] - 324:27, 324:31, 325:17, 325:20, 325:38, 326:1, 326:7, 326:10, 326:16, 326:17, 326:19 submit [2] - 298:4, 327:42 submitted [1] - 284:4 subsequent [1] - 320:13 subsequently [2] - 301:45, 322:32 substance [1] - 326:35 substantially [1] - 320:3 success [12] - 282:6,	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] - 308:20, 308:23, 308:26 supposed [1] - 293:12 supposedly [1] - 287:42 supposition [1] - 306:18 surely [1] - 282:2 surface [1] - 319:34 surprising [1] - 308:17 swab [33] - 284:14, 284:16, 289:6, 289:14, 289:37, 289:41, 290:15, 290:42, 290:43, 290:44, 291:40, 292:4, 297:43,	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28 systemic [2] - 286:13, 286:23 systems [1] - 324:8 T table [3] - 280:20, 299:31, 325:35 tape [6] - 297:23, 297:24, 297:26, 297:28, 298:14, 298:15 tape-lifts [6] - 297:23, 297:24, 297:26, 297:28, 298:14, 298:15	282:6, 282:13, 286:17, 286:19, 293:30, 301:5, 308:30, 309:2, 311:25, 311:30, 313:3, 314:7, 327:27, 328:2 test [9] - 284:2, - 292:33, 312:3, 315:30, 317:16, - 318:30, 318:33, 318:38, 321:35 tested [7] - 280:28, 292:19, 318:36, 318:38, 320:12, 320:15, 322:17 testimony [1] - 310:26 testing [25] - 283:45, 287:7, 291:8, 292:8, 299:15, 299:16, 299:19, 299:26, 302:45, 315:25,
318:18 starting [2] - 294:13, 327:27 starts [2] - 299:29, 300:45 statement [31] - 279:25, 279:29, 279:30, 280:11, 287:39, 289:7, 289:12, 289:17, 289:19, 289:21, 291:6, 291:23, 292:37, 292:47, 293:9, 293:25, 294:11, 294:35, 294:37, 294:43, 298:20, 298:37, 304:45, 304:46, 305:33, 308:45, 309:19, 312:5, 314:34, 317:20, 322:14	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] - 324:27, 324:31, 325:17, 325:20, 325:38, 326:1, 326:7, 326:10, 326:16, 326:17, 326:19 submit [2] - 298:4, 327:42 submitted [1] - 284:4 subsequent [1] - 320:13 subsequent[1] - 320:13 subsequent [1] - 326:35 substantially [1] - 320:3 success [12] - 282:6, 282:17, 282:29,	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] - 308:20, 308:23, 308:26 supposed[1] - 293:12 supposedly [1] - 287:42 supposition [1] - 306:18 surely [1] - 282:2 surface [1] - 319:34 surprising [1] - 308:17 swab [33] - 284:14, 284:16, 289:6, 289:14, 289:37, 289:41, 290:15, 290:42, 290:43, 290:44, 291:40, 292:4, 297:43, 298:4, 316:10,	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28 systemic [2] - 286:13, 286:23 systems [1] - 324:8 T table [3] - 280:20, 299:31, 325:35 tape [6] - 297:23, 297:24, 297:26, 297:28, 298:15 tape-lifts [6] - 297:23, 297:24, 297:26, 297:28, 298:14, 298:15 targets [1] - 311:45	282:6, 282:13, 286:17, 286:19, 293:30, 301:5, 308:30, 309:2, 311:25, 311:30, 313:3, 314:7, 327:27, 328:2 test [9] - 284:2, - 292:33, 312:3, 315:30, 317:16, - 318:30, 318:33, 318:38, 321:35 tested [7] - 280:28, 292:19, 318:36, 318:38, 320:12, 320:15, 322:17 testimony [1] - 310:26 testing [25] - 283:45, 287:7, 291:8, 292:8, 299:15, 299:16, 299:19, 299:26, 302:45, 315:25, 315:34, 316:2,
318:18 starting [2] - 294:13, 327:27 starts [2] - 299:29, 300:45 statement [31] - 279:25, 279:29, 279:30, 280:11, 287:39, 289:7, 289:12, 289:17, 289:19, 289:21, 291:6, 291:23, 292:37, 292:47, 293:9, 293:25, 294:11, 294:35, 294:37, 294:43, 298:20, 298:37, 304:45, 304:46, 305:33, 308:45, 309:19, 312:5, 314:34, 317:20, 322:14 statements [4] - 279:24, 279:35,	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] - 324:27, 324:31, 325:17, 325:20, 325:38, 326:1, 326:7, 326:10, 326:16, 326:17, 326:19 submit [2] - 298:4, 327:42 submitted [1] - 284:4 subsequent [1] - 320:13 subsequent[1] - 320:13 subsequent [1] - 326:35 substantially [1] - 320:3 success [12] - 282:6, 282:17, 282:29, 284:40, 284:42,	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] - 308:20, 308:23, 308:26 supposed[1] - 293:12 supposedly [1] - 287:42 supposition [1] - 306:18 surely [1] - 282:2 surface [1] - 319:34 surprising [1] - 308:17 swab [33] - 284:14, 284:16, 289:6, 289:14, 289:37, 289:41, 290:15, 290:42, 290:43, 290:44, 291:40, 292:4, 297:43, 298:4, 316:10, 316:20, 316:27,	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28 systemic [2] - 286:13, 286:23 systems [1] - 324:8 T table [3] - 280:20, 299:31, 325:35 tape [6] - 297:23, 297:24, 297:26, 297:28, 298:15 tape-lifts [6] - 297:23, 297:24, 297:26, 297:28, 298:14, 298:15 targets [1] - 311:45 tasks [3] - 312:1,	282:6, 282:13, 286:17, 286:19, 293:30, 301:5, 308:30, 309:2, 311:25, 311:30, 313:3, 314:7, 327:27, 328:2 test [9] - 284:2, - 292:33, 312:3, 315:30, 317:16, - 318:30, 318:33, 318:38, 321:35 tested [7] - 280:28, 292:19, 318:36, 318:38, 320:12, 320:15, 322:17 testimony [1] - 310:26 testing [25] - 283:45, 287:7, 291:8, 292:8, 299:15, 299:16, 299:19, 299:26, 302:45, 315:25, 315:34, 316:2, 317:43, 317:45,
318:18 starting [2] - 294:13, 327:27 starts [2] - 299:29, 300:45 statement [31] - 279:25, 279:29, 279:30, 280:11, 287:39, 289:7, 289:12, 289:17, 289:19, 289:21, 291:6, 291:23, 292:37, 292:47, 293:9, 293:25, 294:11, 294:35, 294:37, 294:43, 298:20, 298:37, 304:45, 304:46, 305:33, 308:45, 309:19, 312:5, 314:34, 317:20, 322:14 statements [4] - 279:24, 279:35, 279:45, 307:30	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] - 324:27, 324:31, 325:17, 325:20, 325:38, 326:1, 326:7, 326:10, 326:16, 326:17, 326:19 submit [2] - 298:4, 327:42 submitted [1] - 284:4 subsequent [1] - 320:13 subsequent[1] - 320:13 subsequent[1] - 326:35 substantially [1] - 320:3 success [12] - 282:6, 282:17, 282:29, 284:40, 284:42, 285:9, 286:2, 308:2,	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] - 308:20, 308:23, 308:26 supposedly [1] - 287:42 supposition [1] - 306:18 surely [1] - 282:2 surface [1] - 319:34 surprising [1] - 308:17 swab [33] - 284:14, 284:16, 289:6, 289:14, 289:37, 289:41, 290:15, 290:42, 290:43, 290:44, 291:40, 292:4, 297:43, 298:4, 316:10, 316:20, 316:27, 316:29, 316:30,	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28 systemic [2] - 286:13, 286:23 systems [1] - 324:8 T table [3] - 280:20, 299:31, 325:35 tape [6] - 297:23, 297:24, 297:26, 297:28, 298:15 tape-lifts [6] - 297:23, 297:24, 297:26, 297:26, 297:28, 298:14, 298:15 targets [1] - 311:45 tasks [3] - 312:1, 312:3	282:6, 282:13, 286:17, 286:19, 293:30, 301:5, 308:30, 309:2, 311:25, 311:30, 313:3, 314:7, 327:27, 328:2 test [9] - 284:2, - 292:33, 312:3, 315:30, 317:16, - 318:30, 318:33, 318:38, 321:35 tested [7] - 280:28, 292:19, 318:36, 318:38, 320:12, 320:15, 322:17 testimony [1] - 310:26 testing [25] - 283:45, 287:7, 291:8, 292:8, 299:15, 299:16, 299:19, 299:26, 302:45, 315:25, 315:34, 316:2, 317:43, 317:45, 318:4, 318:5, 318:9,
318:18 starting [2] - 294:13, 327:27 starts [2] - 299:29, 300:45 statement [31] - 279:25, 279:29, 279:30, 280:11, 287:39, 289:7, 289:12, 289:17, 289:19, 289:21, 291:6, 291:23, 292:37, 292:47, 293:9, 293:25, 294:11, 294:35, 294:37, 294:43, 298:20, 298:37, 304:45, 304:46, 305:33, 308:45, 309:19, 312:5, 314:34, 317:20, 322:14 statements [4] - 279:24, 279:35, 279:45, 307:30 stating [1] - 300:12	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] - 324:27, 324:31, 325:17, 325:20, 325:38, 326:1, 326:16, 326:17, 326:19 submit [2] - 298:4, 327:42 submitted [1] - 284:4 subsequent [1] - 320:13 subsequent[1] - 320:13 subsequent [1] - 320:3 substantially [1] - 320:3 success [12] - 282:6, 282:17, 282:29, 284:40, 284:42, 285:9, 286:2, 308:2, 308:36, 308:40,	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] - 308:20, 308:23, 308:26 supposed[1] - 293:12 supposedly [1] - 287:42 supposition [1] - 306:18 surely [1] - 282:2 surface [1] - 319:34 surprising [1] - 308:17 swab [33] - 284:14, 284:16, 289:6, 289:14, 289:37, 289:41, 290:15, 290:42, 290:43, 290:44, 291:40, 292:4, 297:43, 298:4, 316:10, 316:20, 316:27, 316:29, 316:30, 319:6, 319:10,	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28 systemic [2] - 286:13, 286:23 systems [1] - 324:8 T table [3] - 280:20, 299:31, 325:35 tape [6] - 297:23, 297:24, 297:26, 297:28, 298:14, 298:15 tape-lifts [6] - 297:23, 297:24, 297:26, 297:28, 298:14, 298:15 targets [1] - 311:45 tasks [3] - 312:1, 312:3 team [32] - 283:13,	282:6, 282:13, 286:17, 286:19, 293:30, 301:5, 308:30, 309:2, 311:25, 311:30, 313:3, 314:7, 327:27, 328:2 test [9] - 284:2, 292:33, 312:3, 315:30, 317:16, 318:30, 318:38, 321:35 tested [7] - 280:28, 292:19, 318:38, 320:12, 320:15, 322:17 testimony [1] - 310:26 testing [25] - 283:45, 287:7, 291:8, 292:8, 299:15, 299:16, 299:19, 299:26, 302:45, 315:25, 315:34, 316:2, 317:45, 318:4, 318:5, 318:9, 318:18, 318:21,
318:18 starting [2] - 294:13, 327:27 starts [2] - 299:29, 300:45 statement [31] - 279:25, 279:29, 279:30, 280:11, 287:39, 289:7, 289:12, 289:17, 289:19, 289:21, 291:6, 291:23, 292:37, 292:47, 293:9, 293:25, 294:11, 294:35, 294:37, 294:43, 298:20, 298:37, 304:45, 304:46, 305:33, 308:45, 309:19, 312:5, 314:34, 317:20, 322:14 statements [4] - 279:24, 279:35, 279:45, 307:30 stating [1] - 300:12 statistic [1] - 286:6	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] - 324:27, 324:31, 325:17, 325:20, 325:38, 326:1, 326:16, 326:17, 326:19 submit [2] - 298:4, 327:42 submitted [1] - 284:4 subsequent [1] - 320:13 subsequent[1] - 320:35 substantially [1] - 320:3 success [12] - 282:6, 282:17, 282:29, 284:40, 284:42, 285:9, 286:2, 308:2, 308:36, 308:40, 312:20, 312:23	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] - 308:20, 308:23, 308:26 supposed[1] - 293:12 supposedly [1] - 287:42 supposition [1] - 306:18 surely [1] - 282:2 surface [1] - 319:34 surprising [1] - 308:17 swab [33] - 284:14, 284:16, 289:6, 289:14, 289:37, 289:41, 290:15, 290:42, 290:43, 290:44, 291:40, 292:4, 297:43, 298:4, 316:10, 316:20, 316:27, 316:29, 316:30, 319:6, 319:10, 319:11, 319:15,	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28 systemic [2] - 286:13, 286:23 systems [1] - 324:8 T table [3] - 280:20, 299:31, 325:35 tape [6] - 297:23, 297:24, 297:26, 297:28, 298:14, 298:15 tape-lifts [6] - 297:23, 297:24, 297:26, 297:28, 298:14, 298:15 targets [1] - 311:45 tasks [3] - 312:1, 312:3 team [32] - 283:13, 285:1, 285:7,	282:6, 282:13, 286:17, 286:19, 293:30, 301:5, 308:30, 309:2, 311:25, 311:30, 313:3, 314:7, 327:27, 328:2 test [9] - 284:2, 292:33, 312:3, 315:30, 317:16, 318:30, 318:38, 321:35 tested [7] - 280:28, 292:19, 318:36, 318:38, 320:12, 320:15, 322:17 testimony [1] - 310:26 testing [25] - 283:45, 287:7, 291:8, 292:8, 299:15, 299:16, 299:19, 299:26, 302:45, 315:25, 315:34, 316:2, 317:43, 317:45, 318:4, 318:5, 318:9, 318:18, 318:21, 322:18, 322:20,
318:18 starting [2] - 294:13, 327:27 starts [2] - 299:29, 300:45 statement [31] - 279:25, 279:29, 279:30, 280:11, 287:39, 289:7, 289:12, 289:17, 289:19, 289:21, 291:6, 291:23, 292:37, 292:47, 293:9, 293:25, 294:11, 294:35, 294:37, 294:43, 298:20, 298:37, 304:45, 304:46, 305:33, 308:45, 309:19, 312:5, 314:34, 317:20, 322:14 statements [4] - 279:24, 279:35, 279:45, 307:30 stating [1] - 300:12	297:41 submission [4] - 326:33, 327:8, 327:14, 328:3 submissions [11] - 324:27, 324:31, 325:17, 325:20, 325:38, 326:1, 326:16, 326:17, 326:19 submit [2] - 298:4, 327:42 submitted [1] - 284:4 subsequent [1] - 320:13 subsequent[1] - 320:13 subsequent [1] - 320:3 substantially [1] - 320:3 success [12] - 282:6, 282:17, 282:29, 284:40, 284:42, 285:9, 286:2, 308:2, 308:36, 308:40,	supplier [1] - 322:18 support [5] - 300:32, 300:36, 304:18, 311:8, 311:14 supportive [3] - 308:20, 308:23, 308:26 supposed[1] - 293:12 supposedly [1] - 287:42 supposition [1] - 306:18 surely [1] - 282:2 surface [1] - 319:34 surprising [1] - 308:17 swab [33] - 284:14, 284:16, 289:6, 289:14, 289:37, 289:41, 290:15, 290:42, 290:43, 290:44, 291:40, 292:4, 297:43, 298:4, 316:10, 316:20, 316:27, 316:29, 316:30, 319:6, 319:10,	307:36, 308:3, 309:7, 309:21, 310:22, 317:32 systematic [1] - 282:28 systemic [2] - 286:13, 286:23 systems [1] - 324:8 T table [3] - 280:20, 299:31, 325:35 tape [6] - 297:23, 297:24, 297:26, 297:28, 298:14, 298:15 tape-lifts [6] - 297:23, 297:24, 297:26, 297:28, 298:14, 298:15 targets [1] - 311:45 tasks [3] - 312:1, 312:3 team [32] - 283:13, 285:1, 285:7, 294:23, 294:25,	282:6, 282:13, 286:17, 286:19, 293:30, 301:5, 308:30, 309:2, 311:25, 311:30, 313:3, 314:7, 327:27, 328:2 test [9] - 284:2, 292:33, 312:3, 315:30, 317:16, 318:30, 318:38, 321:35 tested [7] - 280:28, 292:19, 318:38, 320:12, 320:15, 322:17 testimony [1] - 310:26 testing [25] - 283:45, 287:7, 291:8, 292:8, 299:15, 299:16, 299:19, 299:26, 302:45, 315:25, 315:34, 316:2, 317:45, 318:4, 318:5, 318:9, 318:18, 318:21,

tests [2] - 321:27, 304:7, 308:7, 316:33 297:15, 301:28, 328:32 U 321:28 tracked [1] - 282:24 312:36, 312:41, Wilson [1] - 279:11 themselves [3] tracking [1] - 282:22 ultimately [1] - 315:18 312:42, 312:44, Wilson-Wilde [1] -313:4, 313:7, 313:9, 288:27, 288:28, trading [1] - 328:14 unclear [1] - 290:28 279:11 322.12 313:12, 313:43, wise [1] - 320:3 trained [2] - 300:17, uncovered [1] thereafter [1] - 327:3 303:19 313:47 wish [8] - 303:35, 304:33 validations [2] -304:5, 304:6, they have [1] - 325:2 training [9] - 302:35, under [3] - 284:4, 313:1, 313:8 they've [1] - 318:37 302:41, 302:43, 306:38, 311:13, 300:43, 318:45 VANESSA[1] - 280:2 thinking [3] - 296:38, 303:2, 303:23, underlying [1] -312:10, 320:33, Vanessa [4] - 297:10, 328:21 320:13, 325:6 303:28. 310:41. 316:24 310:44, 311:47 302:17, 306:15, wishes [2] - 324:39, thinks [1] - 325:46 understanding" [1] third [1] - 304:7 transcript [4] - 279:14, 314:27 326:3 309:11 variation [1] - 319:45 279:18, 279:20, WITHDREW [1] -THOMAS [1] - 280:4 understood [2] various [5] - 283:12, thoughts [2] - 308:9, 293:3 296:27, 326:37 324:24 286:2, 293:1, witness [1] - 324:44 308:24 transcripts [1] undertaken [2] -307:42, 324:28 279:10 witnesses [4] three [8] - 279:9, 312:35, 313:44 279:39, 292:36, varying [1] - 312:4 transfer [1] - 295:45 320:32, 323:15, undertook [1] treating [1] - 283:36 vast [1] - 288:3 324:13, 325:3 295:19, 295:37, 313:12 WITNESSES [1] -295:41, 307:37, trial [5] - 315:39, verification [2] underway [1] - 309:43 315:41, 316:1, 291:46, 292:9 324:24 324:13 unfortunately [1] verse [1] - 327:46 wondering [1] throughout [1] -316:27 299:30 tripled [1] - 282:25 UNIDENTIFIED [2] versus [5] - 282:8, 320:46 303:14 trouble [1] - 327:29 word [1] - 286:21 284:2, 284:44, throughput [2] -324:19, 327:12 285:19, 286:4 311:10, 311:31 troubleshoot [2] words [2] - 311:12, unless [4] - 288:26, Veth [1] - 309:24 322:20 **Thursday** [1] - 278:25 305:32, 305:45 306:24, 307:15, via [1] - 300:35 workflow [3] - 295:39, trumpeting [1] timeline [1] - 317:16 323:12 311:18 view [3] - 311:15, 307:22, 311:37 timing [1] - 324:28 unlikely [1] - 288:31 try [2] - 305:37, 305:44 UNTIL [1] - 328:38 318:20, 318:22 worse [1] - 285:16 title [1] - 292:40 today [5] - 320:47, trying [8] - 283:43, **up** [20] - 282:33, viewed [1] - 292:13 worthwhile [1] -325:39, 326:43, 287:28, 288:43, 282:34, 282:37, views [1] - 324:34 307:46 290:12, 305:2, volume [7] - 283:13, Wright [1] - 279:34 327:10, 327:15 282:38, 285:11, 305:32, 321:26 283:25, 294:30, write [1] - 318:3 today. [1] - 325:17 286:31, 286:39, Tom [7] - 295:5, tube [1] - 298:46 288:24, 290:41, 296:16, 309:8, writing [1] - 323:3 tubes [1] - 298:43 309:35, 310:8 301:27, 302:13, 293:13, 294:22, written [6] - 307:20, 304:9, 304:19, Tuesday [2] - 309:24, 298:32, 308:21, 318:8, 325:16, 310:27 318:3, 318:8, 323:3, W 325:37, 326:16, 306:20, 306:35 323:42, 326:33, Tom" [1] - 299:38 turn [6] - 292:37, 327.8 walk [1] - 302:47 Tom's [1] - 306:16 299:28, 304:2, 326:45 wrote [1] - 296:39 weak [1] - 284:3 307:36, 309:19, update [1] - 295:5 tomorrow [10] week [8] - 301:1, Υ 310:47 updates [1] - 295:8 324:43, 325:30, 301:5, 302:3, 302:5, turned [1] - 298:33 updating [1] - 314:22 325:43, 326:3, turning [3] - 294:34, 302:12, 302:13, years [6] - 283:24, 326:7, 326:10, uptake [2] - 316:30, 302:14 326:20, 326:23, 321:4, 324:27 322:43 286:2, 287:4, weekly [1] - 295:4 291:10, 303:14, 327:28, 327:29 two [13] - 279:30, user [1] - 314:7 weeks [1] - 309:46 307:42 took [5] - 279:11, 279:34, 300:43, users [2] - 314:28, weight [1] - 325:1 yellow [1] - 307:26 305:46, 311:46, 301:1, 301:5, 314:30 Western [1] - 313:16 yesterday [4] -301.40 306.7 318:2, 318:7 utilised [1] - 313:46 what-not [1] - 303:11 279:10, 292:38, 311:1, 311:8, tools [1] - 318:6 316:28, 324:36, whilst [1] - 290:40 324:28, 325:38 top [5] - 294:39, yield [7] - 281:26, whole [12] - 283:35, 298:19, 306:44, 324:38, 325:8 283:27, 284:10, 286:33, 288:20, 310:39, 319:35 two-page [1] - 279:30 vaque [3] - 281:3, 292:22, 292:27 296:44, 297:43, 287:42, 288:33, type [7] - 284:14, topic [2] - 291:26, 298:38, 310:36, 290:38, 298:33 298:32 284:16, 289:37, vaguely [1] - 290:26 yielding [1] - 281:20 289:41, 312:1, valid [1] - 299:22 311:43, 319:28, total [1] - 284:33 319:33, 319:37, yields [6] - 286:17, 316:29, 316:30 validate [1] - 312:43 touched [1] - 299:36 324:1 286:36, 291:31, types [5] - 291:40, touches [1] - 323:32 validated [1] - 297:13 wide [1] - 287:15 299:9, 319:37, 296:6, 296:7, 297:4, validating [1] - 313:42 tour [2] - 302:34, Wilde [1] - 279:11 319:47 309:15 validation [16] -304:47 yourselves [1] tours [1] - 303:10 typo [1] - 293:44 WILLIAMS [3] -291:46, 292:8, 286:10 324:17, 327:8, 295:13, 295:34,

towards [4] - 298:33,

•

•[8] - 295:13, 295:17, 295:34, 295:35, 295:43, 295:47